Gross Product by Industry, 1977–90

By Robert P. Parker

THIS ARTICLE presents revised current- and constant-dollar estimates of gross product originating (GPO) by industry for 1977–89 and new estimates for 1990. These estimates update and extend the GPO estimates for 1977–89 that were published in the January and April 1991 issues of the SURVEY OF CURRENT BUSINESS.[1]

The revised and extended estimates (shown in tables 9–12 at the end of the article) incorporate the most recent comprehensive and annual revisions of the national income and product accounts (NIPA's), newly available information on the composition of inputs from the most recent input-output (I-O) tables, an updated and expanded employment matrix that converts NIPA corporate profits and capital consumption allowances from a company-industry basis to an establishment-industry basis, and newly available source data for gross output. In addition, one of BEA's alternative measures of real output—the benchmark-years-weighted index—is used to measure real manufacturing GPO and total real gross domestic product (GDP) for 1977–87.

The next step in BEA's work to improve the GPO estimates will be the release this fall of the following: Revised estimates for 1988–90 and new estimates for 1991 that, for 1988 and 1989, will primarily reflect the incorporation of recently revised data from several annual Census Bureau surveys and, for 1990 and 1991, will incorporate the results of the forthcoming annual NIPA revision and other newly available source data for gross output and prices of intermediate inputs; benchmark-years-weighted measures of manufacturing GPO for the years 1978–86; and revised current-dollar GPO for all industries for

1. See "Gross Product by Industry, 1977–88: A Progress Report on Improving the Estimates," SURVEY OF CURRENT BUSINESS 71 (January 1991): 23–37 and "Gross National Product by Industry, 1987–89," SURVEY 71 (April 1991): 25–27.

Gross Product Originating: Definition and Relationship to Gross Domestic Product

Gross product, or gross product originating (GPO), by industry is the contribution of each industry—including government—to gross domestic product (GDP). An industry's GPO, often referred to as its "value added," is equal to its gross output (sales or receipts and other operating income, plus inventory change) minus its intermediate inputs (consumption of goods and services purchased from other industries or imported).

In concept, GDP measured as the sum of GPO in all industries is the same as GDP measured in two other ways: (1) As the sum of expenditures (consumer spending, investment, net exports, and government purchases) and (2) as the sum of costs incurred (compensation of employees, net interest, indirect business taxes, etc.) and profits earned in production. In practice, BEA implements only the latter two ways, using less than perfectly consistent source data, so the resulting totals are not the same.

The current-dollar estimate of GDP is defined as the sum of the expenditure components; gross domestic income is defined as the sum of costs incurred and profits earned.[1] The difference between GDP and gross domestic income is the statistical discrepancy. The current-dollar GPO estimates are measured as the sum of distributions by industry of the components of gross domestic income. Thus, the sum of the current-dollar GPO estimates also differs from current-dollar GDP by the statistical discrepancy.

The constant-dollar estimate of GDP is also measured as the sum of the expenditure components. Constant-dollar estimates of gross domestic income are not prepared, however, because price indexes for deflation cannot be associated with income measures as they can be with the goods and services that make up the expenditure measures. Constant-dollar GPO estimates for most industries are measured using estimates of gross output and intermediate inputs.

The sum of the constant-dollar GPO estimates differs from constant-dollar GDP by the constant-dollar statistical discrepancy plus an additional discrepancy, termed the "residual." The residual appears in the constant-dollar GPO estimates because of BEA's judgment that the constant-dollar expenditure components used to measure GDP are more accurate than the constant-dollar GPO estimates. The amount of detailed expenditures data that are available for weighting price indexes is greater than that for gross outputs and intermediate inputs, and little information is collected annually on the composition of inputs or of nonmanufacturing outputs. For some industries, no source data are available to measure gross output, and the resulting GPO estimates are prepared using less reliable methodologies.

1. Gross domestic income, which is GDP less the statistical discrepancy, is not shown in the NIPA tables, but gross national income, which is GNP less the statistical discrepancy, is shown in NIPA table 1.9. Gross domestic income is omitted because national measures of income, which refer to the income available to U.S. residents as a result of their contribution to production, are generally more appropriate for analysis relating to sources and uses of income. Gross domestic income differs from gross national income, as GDP differs from GNP, by the exclusion of net receipts of factor income from the rest of the world.

1947–76 that will incorporate the most recent comprehensive NIPA revision.

The first section of this article discusses changes in the industrial distribution of GDP for 1977–90. The second section reviews the revisions in the GPO estimates, and the third section discusses the major sources of these revisions. The final section describes the methodology used to prepare the GPO estimates.

Changes in the Industrial Distribution of GDP

Constant-dollar GPO estimates can be used to gauge the performance over time of the various industries in terms of their relative growth rates. Comparisons of an industry's growth rate with the growth in real GDP also indicate whether the industry's share of the total economy is becoming larger or smaller, thus providing the same answer as comparisons of changes in constant-dollar shares. Current-dollar shares can be used to measure the relative size of the various industries at a given point in time.

In this article, the benchmark-years-weighted measure is used for calculating changes in real GDP and in real GPO of manufacturing industries for 1977–87. Changes in nonmanufacturing industries for 1977–87 and in GDP and GPO for all industries for 1987–90 are calculated using fixed-1987-weighted measures. For GDP and for manufacturing GPO, changes for 1977–90 are calculated using the combination of the two measures. As stated in the April 1992 SURVEY, the use of fixed price weights does not adequately portray the course of real output over long periods of time, because of changes in the relative price structure of the economy. For 1977–87, there were substantial changes that were traceable largely to the declining prices of computers and peripheral equipment, which mainly affects manufacturing GPO. (For more information, see the box on page 36.)

Table 1.—Real Gross Domestic Product by Industry Group: Average Annual Rates of Change, Selected Periods [1]

[Percent]

	1977–90	1977–82	1977–87	1982–90
Gross domestic product	**2.7**	**1.7**	**2.9**	**3.4**
Agriculture, forestry, and fisheries	3.1	2.8	3.3	3.2
Mining	.4	–2.6	–.1	2.3
Construction	.7	–2.9	1.1	3.0
Manufacturing	2.3	.2	2.5	3.6
Durable goods	2.6	–.3	2.7	4.4
Nondurable goods	2.0	1.0	2.3	2.6
Transportation and public utilities	2.9	1.1	2.9	4.1
Transportation	2.5	–.3	2.7	4.2
Communications	5.1	6.6	5.7	4.2
Electric, gas, and sanitary services	1.7	–1.5	1.2	3.8
Wholesale trade	5.1	5.1	5.9	5.0
Retail trade	3.2	1.2	3.3	4.5
Finance, insurance, and real estate	2.9	3.5	3.1	2.6
Services	3.8	3.1	3.8	4.2
Government	1.6	1.3	1.4	1.7

1. For 1977–87, changes in GDP and in manufacturing gross product originating are calculated using benchmark-years-weighted measures. Changes for those periods for all other industry groups are calculated using fixed 1987 weighted measures. For 1987–90, changes in GDP and in all industry groups are calculated using the fixed 1987 weighted measure. For 1977–90, changes in GDP and manufacturing are calculated using the combination of the two measures. The indexes are shown in table 11. See the box on page 36 for additional information.

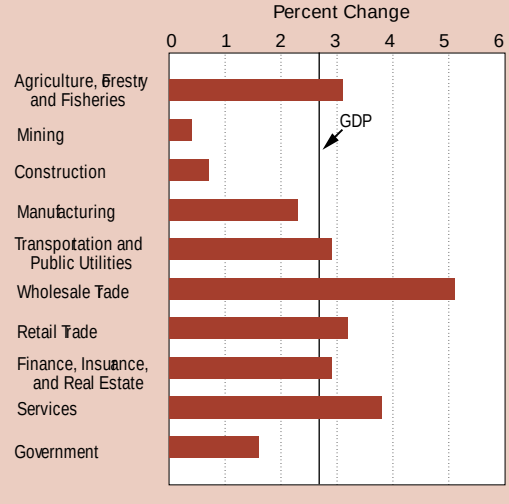
GPO growth rates

Constant-dollar GDP increased at an average annual rate of 2.7 percent for 1977–90 (chart 1 and table 1). All of the major industry groups recorded increases; the increases ranged from 5.1 percent for wholesale trade to 0.4 percent for mining. Manufacturing increased 2.3 percent, about one-half percentage point less than the increase in GDP.

Growth rates for 1977–90 for the more detailed industry groups are shown in table 11. For all but seven of the detailed industries, the data for 1977 and 1990 are comparable. For the industries for which the data are comparable, nine industries recorded average annual increases of 5 percent or

CHART 1

Real GDP by Industry Group:
Average Annual Change for 1977–90



more. The two fastest growing industries were metal mining, which increased 10.2 percent, and security and commodity brokers, which increased 9.1 percent. The other fast-growing industries comprised the following: Wholesale trade (which is considered both a major industry group and a detailed industry); three industries in transportation and public utilities; one industry in finance, insurance, and real estate (FIRE); one industry in services; and one industry in manufacturing.[2]

Nine industries recorded decreases. The four largest were in manufacturing: Tobacco manufactures was down 3.9 percent; primary metals industries, down 2.7 percent; motor vehicles and equipment, down 2.6 percent; and leather and leather products, down 2.4 percent. Of the remaining five decreases, three were in transportation and public utilities, and one each was in mining and in services.

For seven industries, changes in the Standard Industrial Classification (SIC) created significantly different industry definitions for 1977 and 1990. Grouping them to eliminate this noncomparability yields two more industries (a combination of electric and other electronic equipment and of instruments and related products and a combination of business services, miscellaneous professional services, and "other services") with average

2. The industry in manufacturing was the industrial machinery and equipment industry; the 1977–90 change for that industry was computed using the 1977 value for the 1972 Standard Industrial Classification (SIC) "machinery, except electrical" industry, which is roughly comparable in definition to the 1987 SIC industrial machinery and equipment industry.

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Table 2.—Gross Domestic Product by Industry Group as a Percentage of Gross Domestic Product, Selected Years

[Percent]

	Current dollars				Constant dollars			
	1977	1982	1987	1990	1977 [1]	1982 [1]	1987 [2]	1990 [3]
Gross domestic product	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Agriculture, forestry, and fisheries	2.8	2.4	1.9	2.0	1.9	2.0	1.9	1.9
Mining	2.7	4.6	1.8	1.8	2.4	2.0	1.8	1.8
Construction	4.8	4.1	4.7	4.4	5.6	4.4	4.7	4.3
Manufacturing	23.6	20.6	19.3	18.4	20.0	18.6	19.3	18.9
Durable goods	14.1	11.8	11.1	10.2	11.3	10.2	11.1	11.0
Nondurable goods	9.6	8.7	8.3	8.2	8.7	8.4	8.3	8.0
Transportation and public utilities	9.1	9.3	9.2	8.7	9.2	8.9	9.2	9.3
Transportation	3.9	3.5	3.4	3.2	3.4	3.1	3.4	3.3
Communications	2.5	2.8	2.8	2.6	2.1	2.7	2.8	2.9
Electric, gas, and sanitary services	2.7	3.0	3.1	2.9	3.6	3.1	3.1	3.2
Wholesale trade	7.0	6.9	6.7	6.5	5.0	5.8	6.7	6.6
Retail trade	9.6	9.1	9.7	9.3	9.3	9.0	9.7	9.8
Finance, insurance, and real estate	14.4	16.0	17.8	17.7	17.4	19.0	17.8	17.8
Services	13.0	14.9	17.2	18.9	15.7	16.8	17.2	17.9
Government	12.5	12.3	12.0	12.2	13.9	13.6	12.0	11.9
Percentage not allocated by industry [4]	.6	–.2	–.5	.1	–.4	–.1	–.5	–.3

1. Percentages for 1977 and 1982 are calculated using approximation B of GDP described in the box on page 36 as the denominators. For manufacturing, the numerators are approximation B of manufacturing gross product originating (GPO) described in the box. For all other industries, the numerators are the 1987-dollar estimates shown in table 12.

2. Current- and constant-dollar percentages are the same in 1987, the base period.

3. All percentages for 1990 are calculated using the 1987-dollar estimates shown in table 12.

4. The current-dollar percentage is calculated using the current-dollar statistical discrepancy, which is GDP measured as the sum of expenditures less gross domestic income—that is, GDP measured as the costs incurred and profits earned in domestic production. The constant-dollar percentage is calculated using the sum of (a) the constant-dollar statistical discrepancy (the discrepancy in current dollars deflated by the implicit price deflator for gross domestic business product), (b) the residual, which is GDP in constant dollars measured as the sum of expenditures less the statistical discrepancy in constant dollars and GDP in constant dollars measured as the sum of gross product originating by industry, and (c) differences between the sum of the industry detail and 100.0 that results from the use of approximation B for benchmark-years-weighted indexes for GDP and manufacturing GPO and of fixed-weighted indexes for nonmanufacturing industries for 1977 and 1982.

NOTE.—Percentages for 1987 are calculated from the estimates based on the 1987 Standard Industrial Classification (SIC). There are no significant differences from percentages calculated from the estimates based on the 1972 SIC.

The Measurement of the Change in Real GPO by Industry

In this article, BEA departs from its traditional use of a fixed-weighted quantity index for measuring real manufacturing GPO and total real GDP for 1977–87. Instead, BEA uses one of the alternative measures—the benchmark-years-weighted index—that were introduced in April 1992 as part of the most recent comprehensive revision of the national income and product accounts. (See Allan H. Young, "Alternative Measures of Change in Real Output and Prices," SURVEY OF CURRENT BUSINESS 72 (April 1992): 32–48.)

Measuring real growth

Manufacturing GPO and GDP, 1977–87.—A fixed-weighted index is a good measure of real growth as long as the relative price structure of the economy does not change very much from that in the base year. Because of substantial changes in the relative price structure in manufacturing—changes that were largely traceable to the rapidly declining prices of computers and peripheral equipment—the currently used fixed-weighted measure with 1987 price weights is appropriate for only a fairly short period of years around 1987. For timespans covering earlier years, the use of fixed 1987 price weights understates the growth in manufacturing GPO, because the rapid growth in the output of the computer industry is weighted not by the price of computers in those years but by the lower 1987 price. Similarly, the use of fixed 1987 price weights understates the growth in GDP in these timespans. However, the understatement of GDP growth is less than that of manufacturing GPO, because the output of the computer industry accounts for a smaller portion of total GDP.

A benchmark-years-weighted index, unlike a fixed-weighted index, is not based on the price weights of a single year; the weights change each benchmark year—that is, at about 5-year intervals.[1] Over time, the weighting periods are shifted forward to reflect the prices that prevailed in the timespan being measured. For example, the period 1977–82 uses price weights for 1977 and 1982, and the period 1982–87 uses price weights for 1982 and 1987. As a result, the benchmark-years-weighted index is a more accurate measure of growth from benchmark year to benchmark year.

Exhibit 1 shows growth rates for manufacturing GPO using the benchmark-years-weighted measure and three fixed-weighted measures with 1977, 1982, and 1987 prices as weights.

In part A of the exhibit, the benchmark-years-weighted measure, the preferred measure of growth for 1977–87, shows an average annual increase of 2.5 percent. The three fixed-weighted measures show that the measurement of the growth rate for manufacturing is quite sensitive to the choice of weights. For example, the average annual growth rate for manufacturing for 1977–87 is 4.3 percent using weights from the beginning of the timespan (the fixed-1977-weighted measure), and it is only 1.7 percent using weights from the end of the timespan (the fixed-1987-weighted measure).

Both the 1977-weighted measure and the 1987-weighted measure present certain problems when they are used to measure output over the period 1977–87. The 4.3-percent growth rate calculated using the 1977-weighted measure is too high, largely because the change in output for 1982–87 is measured using 1977 prices, which were quite different from the actual prices that prevailed in the period. In contrast, the 1.7-percent growth rate calculated using the 1987-weighted measure is too low, largely because the change in output for 1977–82 is measured using 1987 prices.

Part B of the exhibit shows the growth rates for the previously published estimates of manufacturing GPO, which were calculated using fixed 1982 weights. The differences between the changes for this measure and those for the fixed-1982-weighted measure in part A indicate the effects of incorporating the revised source data and the improvements in methodology described in this article.

Part C of the exhibit reproduces a table from the April 1992 SURVEY article on the alternative measures of real output and prices. The growth rates in the table, which were calculated from provisional estimates that incorporated some of the revised data from the December 1991 comprehensive revision, are similar to those shown in part A.

Nonmanufacturing GPO, 1977–87.—For 1977–87, the fixed-1987-weighted measure is used for nonmanufacturing industries. For these industries, the choice of relative price weights has much less effect than it did for manufacturing; in addition, considerable additional work would be required to calculate the benchmark-years-weighted indexes, especially for the industries for which double deflation is not used in their estimation. When the growth of a nonmanufacturing industry is compared with that of manufacturing or of GDP, the fixed-weighted measure for the nonmanufacturing industry is, in effect, serving as a proxy for a benchmark-years-weighted measure.

GPO for all industries, 1987–90.—For 1987–90, the fixed-1987-weighted measure is used for all industries and for GDP. The differences between this measure and a benchmark-years-weighted measure in which 1990 is treated as if it were a benchmark year are fairly small.

Measuring industry shares

As noted in the April 1992 SURVEY article, a benchmark-years-weighted index has somewhat different properties than the traditional fixed-weighted index. Its use in the calculation of change in real GPO by industry means that questions such as whether manufacturing is becoming a larger or smaller part of the total economy

Text continues on the next page.

1. For the benchmark-years-weighted index, the Fisher Ideal index formula is adapted to use weights from pairs of adjacent benchmark years. For each pair of benchmark years, two fixed-weighted quantity indexes are computed: One with prices of the first benchmark year as weights, and the other with prices of the second benchmark year as weights. The geometric mean of these two indexes is the benchmark-years-weighted index.

Exhibit 1.—Fixed-Weighted and Benchmark-Years-Weighted Indexes of Real Gross Product in Manufacturing: Average Annual Rate of Change Over Selected Periods

	Fixed-weighted indexes			Benchmark-years-weighted index
	1977 weights	1982 weights	1987 weights	
Part A—Measures calculated from revised data:				
1977–87	4.3	2.3	1.7	2.5
1977–82	1.2	–.8	–.8	.2
1982–87	7.6	5.4	4.3	4.9
1987–90	.....	.....	1.7	1.6
1977–90	.....	.....	1.7	2.3
Part B—Previously published measure:				
1977–87	.....	2.5	.....	.....
1977–82	.....	–.9	.....	.....
1982–87	.....	6.1	.....	.....
Part C—Provisional estimates of measures shown in part A:				
1977–87	4.7	2.6	1.6	2.6
1977–82	.8	–.7	–1.3	.1
1982–87	8.8	6.0	4.5	5.2

NOTE.—With fixed-weighted indexes, real gross product is obtained by the double-deflation method as the difference between real gross output and real intermediate inputs. For the benchmark-years-weighted quantity index, the following relationship was used to obtain the gross product index: $(I_{GPO})^{\theta_2} = I_{GO}/(I_{II})^{\theta_1}$, where I_{GPO} is the derived benchmark-years-weighted index of gross product, I_{GO} is a benchmark-years-weighted quantity index of gross output, I_{II} is a benchmark-years-weighted quantity index of intermediate input, and θ_1 and θ_2 are the average current-dollar shares of gross output accounted for by intermediate inputs and value added. Use of this relationship provides a close approximation to a benchmark-years-weighted quantity index.

annual increases of more than 5 percent. (See the box on page 43 for more information about changes in the SIC.)

For 1977–82, a period that starts in the middle of an expansion and ends at the trough of a recession, real GDP increased at an average annual rate of 1.7 percent. Except for mining and construction, all of the major industry groups increased.

For 1982–90, a period that starts from a recession trough and ends at the peak of an expansion, real GDP increased at a 3.4-percent rate. All of the major industry groups increased. Particularly strong recoveries were recorded in manufacturing, which increased 3.6 percent in 1982–90 after a 0.2-percent increase in 1977–82, and in retail trade, which increased 4.5 percent after a 1.2-percent increase.

GPO shares

Table 2 shows current- and constant-dollar shares—the percentage of GDP accounted for by a particular industry or industry group—for 1977, 1982, 1987, and 1990. The constant-dollar shares for 1977 and 1982 were calculated using the "approximation B" method of estimating constant-dollar GDP and constant-dollar manufacturing GPO (see the box on page 36). The constant-dollar shares for 1987 were calculated from the current-dollar estimates shown on the 1987 SIC basis in table 9, and the shares for 1990 were calculated from the 1987-dollar estimates shown in table 12.

Current-dollar shares measure the relative size of an industry at a point in time. In 1990, the largest share of GDP was accounted for by services

The Measurement of the Change in Real GPO by Industry—Continued

Text continues from the preceding page.

must be addressed in somewhat different ways. (One should note that if the question is simply the relative size of manufacturing at a point in time, the current-dollar share provides the answer.)

With the traditional fixed-weighted measures, the question of whether manufacturing is becoming a larger or smaller part of the total economy could be answered either by comparing growth rates in real manufacturing GPO with those in real GDP or by calculating the change in the constant-dollar share of manufacturing GPO in GDP. The following example (in which the manufacturing share is increasing) illustrates that the two approaches are equivalent.

[Percent]

Period	Real GDP	Real manufacturing GPO	"Constant-dollar" share
1	100	20	20.0
2	110	23	20.9
Percent change	10.0	15.0	4.5

The constant-dollar share of manufacturing increases 4.5 percent—from 20.0 percent to 20.9 percent of total GDP. The same result may be obtained directly from the changes in manufacturing GPO and GDP by stating them as ratios of the period 2 values to the period 1 values as follows: $(1.15/1.10)\times 100-100=4.5\%$.

It is sometimes not appreciated that the use of constant-dollar shares relies on a unique property of fixed-weighted indexes: Only with fixed-weighted indexes can real GDP be expressed as the sum of real GDP components. Because benchmark-years-weighted indexes do not share this "additive" property, one cannot convert these indexes into dollar values and then compute time series of shares of real GDP that add up precisely.

The simplest way to use the benchmark-years-weighted indexes to answer the question is to compare growth rates, but it is also possible to calculate approximations of the manufacturing share. Exhibit 2 shows two such approximations. Approximation A is calculated by extrapolating forward and backward the 1982 levels of current-dollar manufacturing GPO and GDP using the benchmark-years-weighted indexes. Approximation B is calculated in the same way except that the extrapolations are from the 1987 current-dollar levels. Approximations calculated in this way will not produce shares that add up precisely to 100 percent, but the approximation error will usually be small when the calculations do not extend far from the base year. It should be noted that a difference in the levels of approximations A and B does not indicate a change in the real manufacturing share; it reflects the change in the relative price structure of manufacturing from 1982 to 1987.

Shares for all industries calculated using approximation B for manufacturing and for GDP and fixed-weighted measures for the nonmanufacturing industries are shown in table 2 of the article. The sum of the industry shares is 1.6 percent larger than the GDP approximation in 1977, and it is 0.3 percent larger in 1982; these differences are included in "percentage not allocated by industry" in the table. BEA plans to further explore the properties of various approximations in the future.

Exhibit 2.—Approximations of Manufacturing Share of Real GDP

	1977	1982	1987
	Extrapolated levels of real manufacturing GPO and GDP		
Approximation A (1982 dollars):			
Manufacturing GPO	640.1	647.5	820.7
Gross domestic product	2,889.4	3,149.6	3,827.0
Approximation B (1987 dollars):			
Manufacturing GPO	685.2	693.1	878.4
Gross domestic product	3,427.6	3,736.3	4,539.9
	Manufacturing share (percent)		
Approximation A	22.2	20.6	21.4
Approximation B	20.0	18.6	19.3

NOTE.—Approximation A is obtained by extrapolating 1982 current-dollar levels with benchmark-years-weighted indexes of real manufacturing GPO and GDP. Approximation B is obtained by extrapolating 1987 current-dollar levels.

GPO Gross product originating
GDP Gross domestic product

(18.9 percent), followed closely by manufacturing (18.4 percent) and FIRE (17.7 percent). In FIRE, about one-half of the share was accounted for by the nonfarm housing services industry; the GPO of this industry arises from the NIPA treatment of homeownership, in which owner-occupants are treated as landlords who rent their houses to themselves.

Changes in constant-dollar shares measure whether an industry is becoming a larger or smaller part of the total economy. From 1977 to 1990, the share of GDP accounted for by the services industry increased the most. Among the other industry groups, the shares of both wholesale and retail trade, of FIRE, and of transportation and public utilities also increased. The shares of mining, construction, manufacturing, and government fell; the government share fell the most.

Revisions in Current- and Constant-Dollar GPO

Current-dollar revisions

The pattern of the revisions in current-dollar GPO by industry largely reflected the pattern of the most recent NIPA revisions in GDP and in gross domestic income.[3] Most of the revisions in the major industry groups were small for 1977, but a number were substantial for 1989 (table 3). For 1989, the largest upward revisions were in manufacturing, $38.6 billion, and in FIRE, $29.8 billion. In manufacturing, the revisions were in both durable goods and nondurable goods; in FIRE, they were mainly in the combination of depository and nondepository institutions. The largest downward revision was in services, $21.7 billion; it was mainly in the combination of business services, miscellaneous professional services, and "other services."

Constant-dollar revisions

For 1977–89, the constant-dollar revisions did not greatly alter the picture of growth by industry that had been shown by the previously published estimates (table 4). Among the major industry groups, wholesale trade remained the fastest growing group. Mining, which was the only group to decrease in the previously published estimates, showed no change in the revised estimates; the revision largely resulted from a substantial upward revision in metal mining. The growth rate for manufacturing was revised down from 2.8 percent to 2.6 percent. (For a discus-

3. The 1991 comprehensive revision raised current-dollar GDP for 1977–88, and both the comprehensive revision and the 1992 annual revision raised current-dollar GDP for 1989. As shown in table 3, the revision in the level of GDP ranged from $9.0 billion for 1977 to $87.6 billion for 1989. Gross domestic income, which is GDP less the statistical discrepancy, had a somewhat different revision pattern. For 1977, gross domestic income was revised down $1.9 billion, and for 1989, it was revised up $69.5 billion.

Table 3.—Revisions in Gross Domestic Product by Industry Group in Current Dollars, Selected Years

[Billions of dollars]

	1977			1982			1987			1989		
	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision
Gross domestic product	**1,965.1**	**1,974.1**	**9.0**	**3,114.8**	**3,149.6**	**34.8**	**4,486.7**	**4,539.9**	**53.2**	**5,163.2**	**5,250.8**	**87.6**
Agriculture, forestry, and fisheries	58.9	54.4	–4.5	89.6	77.0	–12.6	100.7	88.5	–12.2	113.5	104.8	–8.7
Mining	50.2	54.1	3.9	132.1	146.1	14.0	76.8	83.0	6.2	80.3	84.2	3.9
Construction	97.9	93.9	–4.0	140.9	129.4	–11.5	219.2	213.0	–6.2	247.7	235.9	–11.8
Manufacturing	465.3	466.8	1.5	634.6	647.5	12.9	875.5	878.4	2.9	966.0	1,004.6	38.6
Durable goods	277.7	277.7	0	362.5	372.9	10.4	499.9	503.2	3.3	541.0	562.6	21.6
Nondurable goods	187.7	189.1	1.4	272.1	274.6	2.5	375.7	375.2	–.5	425.0	442.0	17.0
Transportation and public utilities	178.9	179.2	.3	288.4	292.1	3.7	413.9	419.9	6.0	460.9	463.3	2.4
Transportation	77.0	76.3	–.7	110.8	108.9	–1.9	153.9	152.8	–1.1	171.5	168.9	–2.6
Communications	48.8	50.0	1.2	85.6	88.6	3.0	122.8	127.6	4.8	133.7	139.9	6.2
Electric, gas, and sanitary services	53.1	52.9	–.2	92.0	94.7	2.7	137.2	139.5	2.3	155.6	154.5	–1.1
Wholesale trade	139.8	137.9	–1.9	219.0	216.5	–2.5	294.8	302.6	7.8	339.5	351.6	12.1
Retail trade	193.0	190.4	–2.6	287.5	286.6	–.9	426.4	440.1	13.7	486.0	502.5	16.5
Finance, insurance, and real estate	280.3	283.6	3.3	475.1	503.9	28.8	761.6	809.9	48.3	896.7	926.5	29.8
Services	253.4	255.7	2.3	463.6	469.8	6.2	793.6	784.0	–9.6	970.5	948.8	–21.7
Government	247.4	247.1	–.3	383.9	388.0	4.1	534.8	545.3	10.5	619.3	627.6	8.3
Statistical discrepancy [1]	0	10.9	10.9	–.1	–7.4	–7.3	–10.6	–24.8	–14.2	–17.0	1.1	18.1

1. Equals GDP measured as the sum of expenditures less gross domestic income—that is, GDP measured as the costs incurred and profits earned in domestic production.

NOTE.—In this table, revised estimates for 1987 and previously published estimates for 1987 and 1989 are based on the 1972 Standard Industrial Classification (SIC); revised estimates for 1989 are based on the 1987 SIC.

sion of the computation of the growth rate for manufacturing, see the box on page 36.)

By detailed industry, the revisions reversed the direction of change for four industries: In textile mill products, a decrease of 0.4 percent was revised to a 2.3-percent increase; and in local and interurban passenger transit, in pipelines except natural gas, and in private households, small increases were revised to small decreases. The largest upward revisions—those of 2 percentage points or more—were in metal mining, in textile mill products, and in water transportation; the largest downward revisions were in tobacco manufactures and in security and commodity brokers.

To an unknown, but likely small, extent, the revisions in the GPO of nonmanufacturing industries also reflected the effect of the shift in the base period from 1982 to 1987. Although a direct estimate of the effect on nonmanufacturing is not available, it can be approximated by calculating what the effects would be on GDP and on manufacturing GPO. (The shift did not affect the manufacturing industries or GDP, because their revised growth rates are calculated using the benchmark-years-weighted measures.) For 1977–89, the shift in the base period would lower the growth rate of GDP by about 0.2 percentage point and of manufacturing GPO by about 1.1 percentage points. Because manufacturing GPO accounts for about one-fifth of GDP, it can be assumed that the impact of the shift on the revised estimates of GPO for nonmanufacturing industries was small.

Sources of the Revisions

Revisions in the changes in GPO arise from the incorporation of the revisions that were made in the most recent comprehensive and annual NIPA revisions and from the incorporation of statistical changes affecting the preparation of the GPO estimates.

NIPA revisions

The comprehensive—or benchmark—revision released in December 1991 involved definitional, statistical, and other changes that affected the GPO estimates for 1977–89. Several of these changes are described in the following paragraphs. The annual revision released in July 1992 also affected the GPO estimates for 1989.[4]

The replacement of gross national product (GNP) with GDP as the featured measure of production resulted in the elimination from the GPO tables of the "rest-of-the-world" industry, which

4. See "The Comprehensive Revision of the U.S. National Income and Product Accounts: A Review of Revisions and Major Statistical Changes," SURVEY 71 (December 1991): 24–42 and "Annual Revision of the U.S. National Income and Product Accounts," SURVEY 72 (July 1992): 6–45.

Table 4.—Revisions in Average Annual Rates of Change of Real Gross Domestic Product by Industry Group, Selected Years [1]

[Percent]

	1977–89			1977–82			1982–87			1987–89		
	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision
Gross domestic product	**2.8**	**2.9**	**0.1**	**1.3**	**1.7**	**0.4**	**4.2**	**4.0**	**–0.2**	**3.4**	**3.2**	**–0.2**
Agriculture, forestry, and fisheries	2.7	2.7	0	4.1	2.8	–1.3	3.2	3.8	.6	–2.2	–.3	1.9
Mining	–1.1	0	1.1	–1.9	–2.6	–.7	–.7	2.6	3.3	–.1	.4	.5
Construction	1.1	.9	–.2	–2.2	–2.9	–.7	4.7	5.3	.6	.4	0	–.4
Manufacturing	2.8	2.6	–.2	–.9	.2	1.1	6.1	4.9	–1.2	4.4	3.1	–1.3
Durable goods	3.1	2.9	–.2	–2.1	–.3	1.8	7.3	5.8	–1.5	6.4	4.0	–2.4
Nondurable goods	2.3	2.2	–.1	.8	1.0	.2	4.3	3.6	–.7	1.3	1.8	.5
Transportation and public utilities	3.3	2.9	–.4	1.2	1.1	–.1	5.2	4.9	–.3	4.1	2.7	–1.4
Transportation	2.8	2.3	–.5	–.2	–.3	–.1	6.2	5.8	–.4	2.1	.7	–1.4
Communications	5.1	5.2	.1	7.3	6.6	–.7	3.6	4.8	1.2	3.5	3.1	–.4
Electric, gas, and sanitary services	2.7	1.8	–.9	–1.5	–1.5	0	5.4	4.0	–1.4	7.0	4.6	–2.4
Wholesale trade	5.3	5.7	.4	6.1	5.1	–1.0	5.4	6.8	1.4	3.5	4.2	.7
Retail trade	3.6	3.6	0	1.2	1.2	0	5.3	5.5	.2	5.3	4.6	–.7
Finance, insurance, and real estate	3.1	3.2	.1	2.6	3.5	.9	3.4	2.7	–.7	3.8	3.6	–.2
Services	4.2	3.8	–.4	3.0	3.1	.1	5.0	4.5	–.5	4.9	4.0	–.9
Government	1.4	1.5	.1	1.1	1.3	.2	1.6	1.5	–.1	1.8	2.0	.2

1. For the previously published estimates, changes in GDP and in all industry groups are calculated using fixed 1982 weighted measures. For the revised estimates, changes in GDP and in manufacturing are calculated using benchmark-years-weighted measures for 1977 and 1982. For 1987–89, the revised changes in GDP and in all industry groups are calculated using the fixed 1987 weighted measures. The revised changes for 1977–89 in GDP and manufacturing are calculated using the combination of the two measures. See the box on page 36 for additional information.

measured the net receipts of factor incomes from the rest of the world.

Alternative measures of output were introduced that are more appropriate than the fixed-weighted measure for the long-term analysis of GDP; the benchmark-years-weighted alternative was used in calculating the changes in real GDP and in manufacturing GPO for 1977–87.

The 1987 Standard Industrial Classification (SIC) was incorporated, beginning with the estimates for 1987. As explained in the box on page 43, this change resulted in discontinuities in several of the detailed industry series; it had little or no effect on GPO for the major industry groups.

Among the changes in NIPA methodology, the new method used to estimate the imputed rental value of farm dwellings reduced farm GPO. The improved estimates of rental expenses for nonfarm dwellings increased nonfarm housing services GPO. Improved adjustments for misreporting on tax returns significantly reduced the GPO of personal services, business services, and "other services." Other changes that affected the gross output estimates used in the double-deflation method of estimating GPO included the following: Revised estimates of petroleum and natural gas exploration, which are used for the oil and gas extraction industry; revised estimates of new nonresidential construction, which are used for the construction industry; and revised estimates of consumer expenditures, which are used for several financial and service industries.

The definitional and classificational changes that were made in the comprehensive revision had only small effects on the GPO estimates. The reclassification of nine government agencies increased the GPO of government enterprises for most years.

Statistical changes in the GPO estimates

This section focuses on the major statistical changes incorporated into the revised estimates of GPO. The next section of this article describes the complete methodology used to prepare the revised estimates.

For the current-dollar GPO estimates, a newly available Census Bureau employment matrix that converts the NIPA industry estimates of corporate profits and capital consumption allowances from a company-industry basis to an establishment-industry basis was introduced. The new matrix is based on data reported in the 1982 Economic Censuses and covers all private nonfarm industries except railroads and private households. The matrix used for the previously published estimates was for 1972 and covered only mining, construction, manufacturing, trade, and selected services industries; the estimates for the other industries were mainly based on company-industry data. Beginning with 1982, the estimates are based on the 1982 matrix; estimates for earlier years are based on averages from both the 1972 and 1982 matrices.

For the constant-dollar GPO estimates, the revisions largely stem from revisions in the current-dollar GPO estimates, from changes in the methods used to estimate constant-dollar GPO, from the shift in the base period from 1982 to 1987 for nonmanufacturing industries, from changes in the prices used to estimate gross outputs and intermediate inputs, and from changes in the methods for estimating the composition of inputs.

For two of the detailed industries, the method used to calculate the constant-dollar GPO estimates was changed. For motion pictures, the double-deflation method using a gross output series developed from the Census Bureau's service annual survey and the 1977, 1982, and 1987 Censuses of Service Industries, replaced the extrapolation method. For water transportation, an extrapolation method using persons engaged in production replaced the double-deflation method; an evaluation based on newly available data from the 1987 Census of Transportation showed that the quantity measures used to estimate the previously used gross output series were not representative of all activities of the industry.

Several changes were made in the estimation of gross output. Manufacturing gross output is now benchmarked to the 1977, 1982, and 1987 input-output tables; as a result, it includes the margin on resales and an adjustment for misreporting of receipts. Previously, it had included the total value of resales and excluded the adjustment. For all industries, force-account construction was allocated from the construction industry to the industry whose employees performed the construction. In addition, construction output was improved by the inclusion of receipts of construction establishments for nonconstruction activities. Gross output for security and commodity brokers was revised to incorporate improved estimates of the adjustments to remove interest and capital gains income. Mining gross output now incorporates shipments data from the 1987 Census of Mineral Industries and revised shipments data for 1988 and 1989 from the Bureau of Mines.

Finally, estimates for 1988 and 1989 are based on the 1987 SIC instead of the 1972 SIC.

New and improved estimates of the composition of inputs were incorporated for most double-deflated industries. The revised estimates incorporate the input composition from the 1982 benchmark I-O table and an adjusted 1987 annual I-O table (which is an update of the 1982 table) that incorporates purchases data from the 1987 Economic Censuses and the 1987 Assets and Expenditures Surveys.[5] (Estimates for 1987 were prepared using both the 1972 SIC and the 1987 SIC.) Revised estimates for 1978–81 and for 1983–86 are primarily interpolations based on the 1977, 1982, and 1987 compositions. The composition for 1988–90 is generally assumed to be the same as 1987 using the 1987 SIC. Improvements also were made in the estimates of the share of inputs accounted for by imports by incorporating information from the 1982 and 1987 I-O tables. In the previous estimates, the composition for 1981–85 was based on the annual I-O tables that were updates of the 1977 benchmark table; estimates for 1978–80 were interpolations of the 1977 and 1981 composition; and estimates for 1986–89 were generally assumed to be the same as the composition of 1985.

Methodology for GPO Estimates

This section describes the methodology—that is, the source data and estimating procedures—used to prepare the revised GPO estimates. Changes in methodology from the previously published estimates were reviewed in the preceding section.

Current-dollar estimates

As noted in the box "Gross Product Originating: Definition and Relationship to Gross Domestic Product," on page 33, the current-dollar GPO estimates are prepared as the sum of distributions by industry of the components of gross domestic income. This section describes the methodology for distributing the current-dollar estimates of these components on an establishment-industry basis.

For most components of gross domestic income, the estimates are based on source data that provide industry distributions, either company-industry or establishment-industry. Only the estimates with distributions based on establishment-industry data can be used directly to calculate industry GPO. For those components that are estimated on the basis of Internal Revenue Service (IRS) tabulations of business tax returns, which have company-industry distributions, the industry distributions may need to be converted to an establishment-industry basis. This conversion is designed to recognize that large multiestablishment companies typically own establishments that are classified in different Standard Industrial Classification (SIC) industries, and industrial distributions of the same component for companies and establishments can be significantly different. (See the box on page 43 for information about the 1987 SIC.) For the components of gross domestic income for which the source data provide no industry distribution, BEA has developed establishment-industry distributions from related sources. Table 5 shows the major source data for each component of gross domestic income, the availability and type of industrial distribution in the source data, and the data or assumptions used, when necessary, to develop establishment-industry distributions.[6]

For the noncorporate parts of components that are estimated on the basis of the IRS tabulations, BEA assumes that company-industry and establishment-industry distributions are equivalent, because noncorporate businesses typically operate only one establishment. For corporate profits and corporate capital consumption allowances, BEA converts the company-industry distributions to establishment-industry distributions using the methodology described in the next paragraph. For corporate net interest, there is no adequate conceptual basis for the conversion, so conversion is not attempted. For the corporate part of other labor income, BEA has developed establishment-industry distributions based primarily on data from the quinquennial economic censuses. For corporate business transfer payments, mainly charitable contributions, BEA assumes that company-industry and establishment-industry distributions are equivalent.

The methodology used to convert corporate profits before tax and capital consumption allowances is based primarily on special Census Bureau tabulations of the employment of establishments of corporations. These "matri-

5. The 1982 table was presented in "Benchmark Input-Output Accounts for the U.S. Economy, 1982," SURVEY 71 (July 1991): 30–71; the 1987 table in "Annual Input-Output Accounts of the U.S. Economy, 1987," SURVEY 72 (April 1992): 55–71.

6. For additional information about the methodology used for income components, see "Annual Revision of the U.S. National Income and Product Accounts," SURVEY 72 (July 1992): 33–36.

ces" present employment of these establishments cross-classified by (1) the company-industry classification assigned by IRS in preparing the tabulations of corporate tax returns and (2) the establishment-industry classification assigned by the Census Bureau in the economic censuses. For the estimates for 1982 forward, the conversion is based on a matrix of establishment employment from the 1982 Economic Censuses that covers all nonfarm industries except railroads and private households. For earlier years, the conversion is based both on the 1982 matrix and on a 1972 matrix that covered only mining, construction, manufacturing, trade, and selected services industries. For all years, information from Department of Energy tabulations of establishment-industry distributions of net income and depreciation of energy companies is used to convert IRS data for integrated petroleum companies. Adjustments to the results of the matrix are made, when necessary, to reflect publicly available information about

Table 5.—Major Sources for Current-Dollar Gross Product Originating by Industry

Component	Major source data	Industrial distribution	
		Distribution available in source data	Data or assumption used if establishment-industry distribution is not available in source data
Compensation of employees:			
Wages and salaries	BLS tabulations of wages and salaries of employees covered by State unemployment insurance and Office of Personnel Management data on wages and salaries of Federal Government employees.	Establishment	
Employer contributions for social insurance	Federal budget data	None	Social Security Administration and BLS tabulations.
Other labor income	Trade association data and IRS tabulations of business tax returns.	None	Census Bureau and IRS tabulations.
Proprietors' income with inventory valuation adjustment:			
Farm	Department of Agriculture farm statistics	Establishment	
Nonfarm:			
Proprietors' income	IRS tabulations of business tax returns	Company	Assumed to be equivalent to an establishment-industry distribution.
Inventory valuation adjustment	BLS prices and Census Bureau inventory data.	Establishment	
Rental income of persons	Census Bureau American Housing Survey, BLS Consumer Expenditures Survey, and IRS tabulations of business and individual tax returns.	Establishment	
Corporate profits with inventory valuation adjustment:			
Corporate profits before tax	IRS tabulations of business tax returns	Company	Census Bureau and Department of Energy data relating company-industry and establishment-industry data.
Inventory valuation adjustment	BLS prices and Census Bureau inventory data.	Establishment	
Net interest:			
Corporate	IRS tabulations of business tax returns	Company	None.
Noncorporate	IRS tabulations of business tax returns	Company	Assumed to be equivalent to an establishment-industry distribution.
Business transfer payments	Trade association data and IRS tabulations of business tax returns.	Company	Industry-specific payments are assigned to those industries; others are based on IRS industry distribution.
Indirect business tax and nontax liability	Federal budget data and Census Bureau data on State and local governments.	None	Industry-specific payments are assigned to those industries; property taxes are based on BEA capital stock distribution.
Subsidies less current surplus of government enterprises.	Federal budget data and Census Bureau data on State and local governments.	Establishment	
Capital consumption allowances:			
Corporate	IRS tabulations of business tax returns	Company	Same as corporate profits before tax.
Noncorporate	IRS tabulations of business tax returns	Company	Assumed to be equivalent to an establishment-industry basis.

BLS Bureau of Labor Statistics
IRS Internal Revenue Service

large mergers, acquisitions, or changes in company diversification that have occurred since 1982.

Constant-dollar estimates: An overview

The constant-dollar GPO estimates are prepared in one of three ways: Double deflation, extrapolation, or direct deflation. The method chosen depends on the availability of source data.

- In the double-deflation method, constant-dollar GPO is derived as the difference between constant-dollar gross output and constant-dollar intermediate inputs. When complete and consistent current-dollar series are available for gross output and for intermediate inputs, these series are deflated, and constant-dollar GPO is measured as the difference between them.[7] In most cases, however, suitable current-dollar intermediate input series are not available; in these cases, intermediate inputs are obtained by deducting current-dollar GPO from current-dollar gross output and then deflating the inputs for use in the calculation of constant-dollar output minus constant-dollar inputs.
- In the extrapolation method, constant-dollar GPO is derived by extrapolating the base-year value of GPO (for which the current-dollar value equals the constant-dollar value) by an indicator series, which usually is the number of persons engaged in production or of hours worked.
- In the direct-deflation method, constant-dollar GPO is derived by deflating current-dollar GPO, usually using gross output prices or earnings.

Generally, double deflation is the conceptually preferred method because it measures GPO in the same way that GPO is defined. Moreover, assuming the availability of appropriate source data, double deflation is preferred because it allows for changes over time in the relationships between gross output and inputs. The extrapolation method will yield the correct results if the rates of change in constant-dollar gross output and inputs are the same. The direct-deflation method will yield the correct results if the deflators for both constant-dollar gross output and inputs are the same.

Double deflation is not the preferred method for the three industries—private households, Federal general government, and State and local general government—for which gross output and GPO are defined as employee compensation. For these industries, the most appropriate method is extrapolation by an indicator of labor input that reflects changes in productivity.

Double deflation was not used for 11 industries for which it is the preferred method, because adequate source data are not available to prepare estimates of current-dollar gross output or of constant-dollar gross output or of both. Extrapolation or direct deflation was used for water

7. In international literature, this is the method usually referred to as "double deflation." That literature is often couched in terms of input-output or production accounts by industry, where gross output and intermediate inputs are displayed. See, for example, United Nations, *Manual on National Accounts at Constant Prices*, Statistical Papers, Series M, No. 64 (New York: United Nations, 1979): 8–11.

Industrial Classification

The distribution of the GPO of private industries is based on the Standard Industrial Classification (SIC), a system that provides a classification for establishments (that is, economic units, generally at a single physical location, where business is conducted or where services or industrial operations are performed). Establishments are classified into an SIC industry on the basis of their principal product or service. Thus, establishment data cover both the principal products included in the SIC and the products of these establishments that are primary to other SIC industries. Industrial distributions for government activities are not provided; separate estimates are shown for the activities of the Federal Government, of State and local governments, and of government enterprises.[1]

The GPO estimates of private industries for 1987 forward are presented on the basis of the 1987 SIC. Estimates for earlier years are presented on the basis of the 1972 SIC; they have not been adjusted to the 1987 SIC because of a lack of adequate source data. To provide a link between the two classifications, the estimates for 1987 are also presented on the basis of the 1972 SIC. (Industry source data for years after 1987 are available only on the 1987 SIC basis.) For the following 1987 SIC industries, there are significant differences between the 1972 SIC and the 1987 SIC at the level of detail that GPO is presented: In manufacturing, electronic and other electrical equipment (SIC 36) and instruments and related products (SIC 38); in communications, telephone and telegraph (SIC 481, 482, and 489) and radio and television (SIC 483 and 484); in FIRE, depository institutions (SIC 60) and nondepository institutions (SIC 61); and in services, business services (SIC 73) and other services (SIC 84, 87, and 89).

1. For additional information on industrial distributions presented in the NIPA's, see U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the United States: Volume 2, 1959–88* (Washington, DC: U.S. Government Printing Office, September 1992): M-12.

transportation; transportation services; banking ("depository institutions" in the 1987 SIC); credit agencies other than banks ("nondepository institutions" in the 1987 SIC); real estate other than nonfarm housing services; holding and investment offices; business services; social services and membership organizations; miscellaneous professional services ("other services" in the 1987 SIC); and government enterprises, Federal and State and local. The key source data used in the preparation of GPO for all industries for which double deflation is not used are shown in table 6. For general government and private households, the GPO estimates are those prepared for the national income and product accounts (NIPA's).

The constant-dollar GPO estimates, calculated as described above, are summed, and the result is compared with constant-dollar GDP estimated as the sum of expenditure components. It is BEA's judgment that the expenditures estimates are the more accurate. Thus, when the difference between the total of the GPO industry estimates and

Table 6.—Methods for Estimating Constant-Dollar Gross Product Originating

Industry [1]	Method	Major source data [2]
Agriculture, forestry, and fisheries	Double deflation	
Mining	Double deflation	
Construction	Double deflation	
Manufacturing	Double deflation	
Transportation:		
Railroad transportation	Double deflation	
Local and interurban passenger transit	Double deflation	
Trucking and warehousing	Double deflation	
Water transportation	Extrapolation	BEA persons engaged in production.
Transportation by air	Double deflation	
Pipelines, except natural gas	Double deflation	
Transportation services	Extrapolation	BEA persons engaged in production.
Communications	Double deflation	
Electric, gas, and sanitary services	Double deflation	
Wholesale trade	Double deflation	
Retail trade	Double deflation	
Finance, insurance, and real estate:		
Depository institutions	Extrapolation	BEA persons engaged in production.
Nondepository institutions	Extrapolation	BEA persons engaged in production.
Security and commodity brokers	Double deflation	
Insurance carriers	Double deflation	
Insurance agents and brokers, and service	Double deflation	
Real estate:		
Nonfarm housing services	Double deflation	
Other real estate	Direct deflation	Index of rent for office buildings from trade source and BEA estimates.
Holding and other investment offices	Extrapolation	BEA persons engaged in production.
Services:		
Hotels and other lodging places	Double deflation	
Personal services	Double deflation	
Business services	Extrapolation	BLS employment weighted by Census Bureau receipts.
Auto repair, services, and parking	Double deflation	
Miscellaneous repair services	Double deflation	
Motion pictures	Double deflation	
Amusement and recreation services	Double deflation	
Health services	Double deflation	
Legal services	Double deflation	
Educational services	Double deflation	
Social services and membership organizations	Direct deflation	BEA average wages and salaries per full-time equivalent employee.
Other services	Direct deflation	BEA average wages and salaries per full-time equivalent employee.
Private households	Direct deflation	BLS prices.
Government:		
General government	Extrapolation	BEA hours worked weighted by BEA measures of experience and education.
Government enterprises	Extrapolation	BEA and Census Bureau employment and BLS output indexes.

1. Titles are for the 1987 SIC; methods also apply to comparable industry in the 1972 SIC.
2. Source data provide either a price index for deflation of gross product originating or a quantity extrapolator of base-year value of gross product originating.

BEA Bureau of Economic Analysis
BLS Bureau of Labor Statistics

total GDP—termed the "residual"—is large, the GPO estimates may be adjusted to bring their total closer to GDP. For the estimates presented in this article, no adjustments were made.

Constant-dollar estimates: Double-deflation method

In the GPO estimates, double-deflation is used for most industries, as shown in table 6. Complete and consistent gross output and intermediate inputs series are available for only two industries, farms and nonfarm housing services; for these industries, constant-dollar GPO is measured as the difference between constant-dollar gross output and constant-dollar inputs. (These GPO estimates are those prepared for the NIPA's.) For all other double-deflated industries, only a gross output series consistent with the current-dollar GPO series is available. This section describes the constant-dollar methodology for these industries; the first part of this section discusses gross output estimates for these industries, and the last two parts discuss the estimates of current- and constant-dollar intermediate inputs.

Gross output.—Table 7 provides a summary description of the principal source data used to prepare the gross output estimates. For current-dollar gross output, the table shows the series used to extrapolate or interpolate the benchmark values. For constant-dollar gross output, it shows the price index used to deflate current-dollar gross output or the quantity indicator used to extrapolate the base-year value.

The estimates of gross output are based primarily on gross output as estimated for BEA's 1977 and 1982 benchmark input-output (I-O) tables and on information from the forthcoming 1987 benchmark I-O table. The industry distributions in these I-O tables do not follow the SIC exactly, because some activities are moved, or redefined, to other industries in order to create industries with homogeneous input structures; the changes facilitate analysis with I-O tables. Activities that are moved include both new construction and maintenance and repair construction, which are shifted to the construction industry; service commodities produced at trade establishments, which are shifted to services; and all trade output (margin) from selling goods, which is shifted to trade. For the GPO estimates, I-O output and input estimates were adjusted to follow the SIC.[8]

Current-dollar intermediate inputs.—The composition of current-dollar intermediate inputs is derived in four steps:

(1) The input compositions for 1977, 1982, and 1987 are derived from the I-O tables;
(2) The input compositions for 1978–81 and for 1983–86 are estimated by interpolating the detailed compositions from 1977, 1982, and 1987;
(3) The imported and domestically produced shares of each detailed input for 1977–87 are estimated; and
(4) The input compositions for 1988–90 are estimated, primarily based on the 1987 composition.

In the first step, the input compositions for 1977 and 1982 are from benchmark I-O tables, after which they are converted to an SIC basis and aggregated to the GPO industry level of detail. The inputs in the I-O tables are estimated largely from economic census reports on purchased goods and services. Because the 1987 I-O table is an update of the 1982 table, the input composition for 1987 is estimated using an indirect method. (Estimates of inputs from the forthcoming benchmark 1987 I-O table were not available.) In BEA's annual I-O tables, initial estimates of inputs are prepared with the assumption that both constant-dollar gross output and inputs have changed at the same rates since the last benchmark table. These initial estimates are subsequently modified so that the sum of industry inputs and final uses equals the directly measured output of these industries. For the revised GPO estimates, these modified estimates for 1987 were converted to an SIC basis and adjusted to take into account some of the data on purchased goods and services collected in the 1987 Economic Censuses and in the 1987 Assets and Expenditures Surveys. The SIC-converted I-O input estimates for 1977, 1982, and 1987 were scaled to sum to the total intermediate inputs derived as gross output less GPO. In general, the composition was estimated for the approximately 5,000 detailed commodity items used to prepare the I-O tables. This detail is substantially greater than the roughly 550 commodities published for the benchmark tables. The greater detail allows for the use of more detailed prices in calculating constant-dollar inputs.

In the second step, input compositions for 1978–81 and for 1983–86 are derived by interpolating, at the detailed input level, between the 1977 and 1982 estimates and between the 1982 and 1987

8. For additional information on I-O classifications, see U.S. Department of Commerce, Bureau of Economic Analysis, *The 1982 Benchmark Input-Output Accounts of the United States* (Washington, DC: U.S. Government Printing Office, December 1991): M-2.

estimates. For manufacturing for all years, the cost of purchased materials, of fuels, and of electricity from the annual survey of manufactures were used as interpolator series. For most nonmanufacturing industries for 1978–81, the cost of purchased fuels and of electricity from the National Energy Accounts were used as interpolator series. (These accounts were prepared by the Commerce Department's Office of Business Analysis.) The results of the interpolations for each year were scaled to sum to the total intermediate inputs derived as gross output less GPO.

In the third step, the shares of intermediate inputs accounted for by imports for 1977, 1982, and 1987 are estimated from the detailed commodity items from the corresponding I-O tables, based on the assumption that the proportion of imports used as intermediate inputs to total inputs is the same for all industries using that input. For 1978–81, import shares at the same level of detail are derived by interpolating the 1977 and 1982 shares. For 1983–86, the import shares are derived by using Census Bureau import data together with interpolations of the 1982 and 1987 proportions of imports used as intermediate inputs.

In the fourth step, the 1987 composition of inputs was used as the composition for most industries for 1988–90. However, for three industries—construction, fabricated metal products, and industrial machinery and equipment—the input compositions were adjusted for consistency with the constant-dollar inputs, the estimates of which were derived as described in the next paragraph.

Constant-dollar intermediate inputs.—The constant-dollar estimates of intermediate inputs are prepared by deflating each of the detailed current-dollar inputs, with imports and domestic production being deflated separately. For three industries—construction, fabricated metal products, and industrial machinery and equipment—constant-dollar inputs for 1988–90 were estimated by assuming no change in the constant-dollar relationship in 1987 between inputs and gross output. These exceptions were made because the input compositions for these industries appeared to have changed after 1987 to the extent that use of the 1987 composition would result in significant errors in the estimates of constant-dollar inputs. (In future years, estimates of the composition of inputs for these industries will be incorporated, and these assumptions will be revised.)

Prices for domestically produced intermediate inputs were largely based on the prices used to prepare the constant-dollar estimates of gross output, as shown in table 7. For service prices, additional detail is shown in table 8.

The import prices were developed from a variety of sources. Import prices for energy commodities are based on estimates from the National Energy Accounts and on Department of Energy prices. Import prices for nonenergy mineral industry commodities are based on price data from the Bureau of Mines. Import prices for most other goods are from the Bureau of Labor Statistics (BLS) import price series and are the same as those used for the NIPA estimates of imports. For years before 1981, however, many of the detailed BLS import prices are not available. For those years, estimates primarily reflect rates of change of more aggregate BLS import prices; where aggregate indexes were not available, they reflect rates of change in corresponding domestic prices, based on the producer price indexes.

Tables 7 through 12 follow.

Table 7.—Principal Source Data and Estimating Methods Used in Preparing Estimates of Gross Output for Use in Double Deflation

Industry [1]	Current dollars	Constant dollars
	Extrapolator or interpolator of benchmark values [2]	Price index for deflation or quantity extrapolator of base-year value
Agriculture, forestry, and fisheries:		
Farms	Cash receipts from marketings, inventory change, and other receipts from USDA.	Prices received by farmers from USDA.
Agricultural services, forestry, and fisheries:		
Agricultural services	Receipts for agricultural services, forestry, and fisheries from IRS tabulations of business tax returns less gross output of forestry and fisheries.	Index of selected prices paid by farmers from USDA.
Forestry	Shipments of logging camps and contractors from Census Bureau quinquennial census and annual survey.	PPI's.
Fisheries	Value of fish landed from NOAA	Fish landed from NOAA.
Mining:		
Metal mining	Physical quantity produced times average price: For uranium, physical quantity and average price from DOE; for all others, quantities and prices from BOM.	Quantity produced from BOM.
Coal mining	Physical quantity produced times average price, both from DOE	Quantity produced from DOE.
Oil and gas extraction:		
Oil and gas extraction	Physical quantity produced times average price, both from NEA's through 1985 and from DOE for 1986 forward.	Quantity produced from NEA's and DOE.
Oil and gas field services	Petroleum and natural gas well drilling and exploration: Footage drilled and cost per foot from trade sources.	Footage drilled from trade source.
Nonmetallic minerals, except fuels	Physical quantity produced times average price, both from BOM	Quantity produced from BOM.
Construction:		
For the Department of Defense	Expenditures from DOD	For most military construction, BEA indexes based on DOD prices; for other construction, cost indexes from trade sources and government agencies.
For State and local highways	Expenditures from Census Bureau annual survey of government spending.	For new construction, cost indexes from government agencies; for maintenance and repair, CPI for home maintenance and repair services.
For private electric and gas utilities	Expenditures from Federal regulatory agencies and trade source	Cost indexes from trade sources and government agencies.
For farms, excluding residential	Expenditures from USDA	Cost index from trade source and price deflator for new single-family houses under construction from Census Bureau.
For other nonresidential:		
New construction	Value put in place from Census Bureau construction survey	Cost indexes from trade sources and government agencies and price deflator for new single-family houses under construction from Census Bureau.
Maintenance and repair	Value put in place from Census Bureau construction survey	CPI for home maintenance and repair services.
For other residential:		
New construction	Value put in place from Census Bureau construction survey	Price deflator of new single-family houses under construction from Census Bureau.
Maintenance and repair	Expenditures by owner-occupants from BLS survey and by landlords from Census Bureau survey.	CPI for home maintenance and repair services.
Manufacturing	Shipments and inventory change from Census Bureau annual survey.	PPI's, BEA computer price index, and BEA price indexes based on DOD prices paid for military equipment.
Transportation:		
Railroad transportation	Total operating revenue for Class I railroads and AMTRAK	Composite index of IPD for Class I freight, from revenue ton-miles from trade source, and of IPD for AMTRAK passenger, from passenger miles from NRPC.
Local and interurban passenger transit:		
Taxicabs	PCE	CPI for taxi fares.
Intercity buses	Operating revenues from trade source	Passenger miles from ICC and trade source.
School buses	Wages and salaries from BLS	Employment from BLS.
Other local transit	Operating revenues of private local transit systems from trade source.	Passenger trips from trade source.
Trucking and warehousing	For 1977-83, operating revenues for Class I motor carriers of property from ICC; for 1984 forward, Census Bureau annual survey.	Ton-miles from DOT.
Transportation by air	Operating revenues of air carriers and of Federal Express from DOT and public sources.	For passenger, revenue passenger miles for domestic and for international travel from DOT. For freight and mail, ton-miles for domestic and international freight and for domestic and international mail from DOT. For all other, composite index of IPD for passenger, freight, and mail.
Pipelines, except natural gas	Operating revenues from trade source	Ton-miles from trade source.
Communications:		
Radio and television broadcasting	Advertising expenditures from trade source; PCE for cable television.	For advertising, cost indexes from trade source. For cable television, CPI for cable television.
Telephone and telegraph	Revenues from FCC	PPI's.
Electric, gas, and sanitary services:		
Electric utilities	For private utilities, revenues from DOE. For rural cooperatives, revenues from USDA.	Kilowatt hours from trade source.
Gas utilities	Revenues of gas pipeline and utilities from trade source	BTU's from trade source.
Sanitary services	Receipts from IRS tabulations of business tax returns	CPI for water and sewerage maintenance.

Table 7.—Principal Source Data and Estimating Methods Used in Preparing Estimates of Gross Output for Use in Double Deflation—Continued

Industry [1]	Current dollars	Constant dollars
	Extrapolator or interpolator of benchmark values [2]	Price index for deflation or quantity extrapolator of base-year value
Wholesale trade:		
Merchant wholesalers	Ratio of gross margin to sales (margin rate) times sales: For 1977-82, margin rate from quinquennial census and sales from Census Bureau annual survey; for 1983 forward, both from annual survey.	Sales deflated by PPI's.
Manufacturers' sales branches and sales offices.	For equipment rental, interpolation of quinquennial census receipts; for 1988 forward, judgmental trend. For other receipts, manufacturing shipments from Census Bureau annual survey.	For equipment rental, IPD from BEA capital stock statistics For other receipts, shipments deflated by PPI's.
Agents and brokers	Merchant wholesalers margin rate times sales: For 1977-82, margin rate from quinquennial census and sales from Census Bureau annual survey; for 1983 forward, both from annual survey.	Merchant wholesalers sales deflated by PPI's.
Retail trade:		
Eating and drinking places	Sales from quinquennial census and from Census Bureau annual survey.	CPI's.
Other	Ratio of gross margin to sales (margin rate) times sales: For 1977-82, margin rate from quinquennial census and sales from Census Bureau annual survey; for 1983 forward, both from annual survey.	Sales deflated by CPI's.
Finance, insurance, and real estate:		
Security and commodity brokers	Securities commissions, revenue from sale of investment company securities, profits on underwriting/selling, gains on trading accounts and other revenues excluding interest, and revenues earned by exchanges; receipt items from SEC and interest from SEC and BEA.	For securities commissions, number of public securities orders from SEC and trade sources; for mutual funds, IPD for securities commissions; for underwriting, new securities registrations from SEC and trade sources; for other revenue for 1977-87, BEA price from trade source data on merger and acquisition fees; for all others, IPD for GDP.
Insurance carriers	Net premiums for health, auto, accident, property, and workers' compensation insurance from trade sources; PCE for expense of handling life insurance.	For health and life insurance, IPD's for PCE. For all others, composite index of BEA IPD for workers' compensation and CPI for auto and property insurance.
Insurance agents and brokers, and services.	Receipts from IRS tabulations of business tax returns	Insurance carrier deflators weighted by commissions from trade source.
Real estate:		
Nonfarm housing services	PCE for owner- and tenant-occupied nonfarm dwellings	IPD for PCE.
Services:		
Hotels and other lodging places	Receipts from Census Bureau quinquennial census and annual survey.	Room-rate index from trade source.
Personal services	Receipts from Census Bureau quinquennial census and annual survey.	CPI's.
Automotive repair, services, and parking.	Receipts from Census Bureau quinquennial census and annual survey.	CPI's.
Miscellaneous repair services	Receipts from Census Bureau quinquennial census and annual survey.	CPI's and average annual earnings from BLS.
Motion pictures	Receipts from Census Bureau quinquennial census and annual survey.	CPI for admissions.
Amusement and recreation services	Receipts from Census Bureau quinquennial census and annual survey.	CPI's.
Health services:		
Hospitals	Receipts from trade sources	HCFA index of input prices and CPI for hospital room.
Other health services	Receipts from Census Bureau quinquennial census and annual survey.	CPI's and HCFA index of input prices.
Legal services	Receipts from Census Bureau quinquennial census and annual survey.	CPI for legal services.
Educational services	PCE for private education	IPD for PCE.

1. Source data and estimating methods apply to both the 1972 SIC and 1987 SIC definition of the industries shown in this table. Industry titles are 1987 SIC titles.

2. Benchmark values are derived from 1977, 1982, and 1987 input-output tables.

BEA	Bureau of Economic Analysis (DOC)	DOT	U.S. Department of Transportation	NEA	National Energy Accounts (DOC, Office of Business Analysis)
BLS	Bureau of Labor Statistics	EIA	Energy Information Administration (DOE)	NOAA	National Oceanic and Atmospheric Administration (DOC)
BOM	Bureau of Mines	FCC	Federal Communications Commission	NRPC	National Railroad Passenger Corporation
CPI	Consumer Price Index (BLS)	HFCA	Health Care Financing Administration	PCE	Personal consumption expenditures
DOC	U.S. Department of Commerce	ICC	Interstate Commerce Commission	PPI	Producer Price Index (BLS)
DOD	U.S. Department of Defense	IPD	Implicit price deflator	SEC	Securities and Exchange Commission
DOE	U.S. Department of Energy	IRS	Internal Revenue Service	USDA	U.S. Department of Agriculture

Table 8.—Principal Sources of Service Input Prices

Service input [1]	Source [2]
Agricultural services	IPD for agricultural services gross output.
Railroad transportation:	
Dining car receipts, business travel	CPI for food away from home.
Rail freight transportation	IPD for freight gross output.
Other railroad services	IPD for freight gross output.
Local and interurban passenger transit:	
Services from local private transit systems	IPD for local transit system gross output.
Taxicabs	CPI for taxi fares.
Other	IPD for intercity buses gross output.
Trucking and warehousing	IPD for trucking and warehousing gross output.
Water transportation	PPI's for water transportation.
Transportation by air:	
Domestic passenger	IPD for domestic passenger gross output.
International passenger	IPD for international passenger gross output.
Freight and express	IPD for freight and express gross output.
Other air services	IPD for transportation by air.
Pipelines, except natural gas	IPD for pipelines, except natural gas gross output.
Transportation services:	
Private carline services	IPD for boxcar rental.
Other	IPD for transportation services gross output.
Telephone and telegraph:	
Telephone	IPD for telephone gross output.
Telegraph services	PPI for telephone services.
Radio and television broadcasting	IPD for radio and television broadcasting gross output.
Electric, gas, and sanitary services:	
Electric utilities	PPI for electric power.
Gas pipeline	IPD for gas pipeline gross output.
Gas utilities	IPD for gas utility gross output.
Sanitary services	CPI for water and sewerage maintenance.
Wholesale trade:	
Merchant wholesalers and agents and brokers	IPD for merchant wholesalers and agents and brokers gross output.
Manufacturers' sales offices and sales branches	IPD for manufacturers' sales offices and sales branches gross output.
Retail trade:	
Eating and drinking	IPD for eating and drinking gross output.
Other	IPD for other retail trade gross output.
Depository institutions:	
Imputed service charges	IPD for financial services furnished without payment by commercial banks.
Other	CPI for personal financial services.
Nondepository institutions:	
Imputed service charges	IPD for financial services furnished without payment by savings and loan associations.
Other	CPI for personal financial services.
Security and commodity brokers:	
Securities underwriting	IPD for underwriting gross output.
Securities commissions	IPD for securities commissions gross output.
Services allied with exchange of securities	IPD for security and commodity brokers gross output.
Other services	BEA price index for merger and acquisition fees for 1977-87; IPD for GDP, 1988 forward.
Insurance carriers:	
Automobile insurance	CPI for automobile insurance.
Nonlife insurance services, except automobile	CPI for property and household insurance.
Other	IPD for insurance carrier gross output.
Insurance agents and brokers, and services	IPD for insurance agents and brokers, and services gross output.
Real estate services:	
Nonfarm business rental and property management	Rental rate per square foot from trade source.
Farm rental	IPD for rental value of farm housing PCE.
Rent paid by nonprofits	IPD for capital consumption allowance of nonprofit organizations.
Royalties for oil and gas mining	IPD for oil and gas extraction gross output.
Royalties, except oil and gas mining	IPD for PCE.
Condominium association fees and assessments by cooperatives	CPI for home maintenance and repair services.
Other	IPD for other real estate gross output.
Personal services:	
Funeral and burial expenses	CPI for funeral expenses.
Other	CPI for laundry and dry cleaning.
Business services:	
Advertising	Cost indexes by type of media from trade sources.
Maintenance, cleaning, disinfecting, and exterminating	CPI for home maintenance and repair services.

Table 8.—Principal Sources of Service Input Prices—Continued

Service input [1]	Source [2]
Photofinishing	IPD for film development PCE.
Other business services	IPD for business services gross output.
Auto repair, services, and parking:	
Repairs, tire retreading, parking, and washing	CPI for automobile maintenance and repair.
Other	CPI for other auto-related fees.
Miscellaneous repair services:	
Radio, TV, refrigeration and air conditioning, and electrical and electronic repairs.	CPI for appliance and furniture repairs.
Other	CPI for maintenance and repair.
Motion pictures services	CPI for admissions.
Amusement and recreation services:	
Sports, recreation, and amusements	CPI for other entertainment services; BEA composite index of input prices.
Theatrical, dance, symphony, and spectator sports productions	CPI for admissions.
Health services:	
Physicians services	CPI for physicians.
Other	CPI for other medical professionals.
Legal services	CPI for legal services.
Education services:	
Vocational schools, except high schools	IPD for commercial and vocational schools PCE.
Higher education and related services	IPD for private higher education PCE.
Social services	Average annual earnings from BLS.
Membership organizations:	
Membership organization expenses	BEA composite index of input prices.
Business associations	Average annual earnings from BLS.
Professional organizations	BEA composite index of input prices.
Other services:	
Noncommercial museums and art galleries	IPD for other services gross output.
Accounting, auditing, and bookkeeping services	CPI for personal financial and legal services fees.
Other	IPD for other services gross output.
Government enterprises:	
Postal services	PPI's for seven types of services.
Imported services:	
Rail freight transportation	PPI for railroad freight.
Water transportation, n.e.c.	Charter prices from trade source.
Air transportation fares	BLS import price index for air passenger fares.

1. For this table, services consist of the primary outputs of (1) private businesses in the agricultural services, transportation and public utilities, trade, finance, insurance, and real estate, and services industries as defined by the 1987 Standard Industrial Classification, and (2) similar services provided by government enterprises. Prices for imported services are shown separately at the end of the table if they differ from prices used for corresponding domestic services.

2. Sources of price indexes for gross output IPD's, except for other transportation, other real estate, business services and for other services, are shown in table 4. The IPD's for the gross output for these two industries were estimated from the IPD's for GPO for these industries and from information on inputs from the input-output tables.

BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
CPI	Consumer Price Index
GDP	Gross domestic product
GPO	Gross product originating
IPD	Implicit price deflator
PCE	Personal consumption expenditures
PPI	Producer Price Index

Table 9.—Gross Domestic Product by Industry in Current Dollars

[Billions of dollars]

	Line	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987*	1987*	1988	1989	1990
Gross domestic product	1	**1,974.1**	**2,232.7**	**2,488.6**	**2,708.0**	**3,030.6**	**3,149.6**	**3,405.0**	**3,777.2**	**4,038.7**	**4,268.6**	**4,539.9**	**4,539.9**	**4,900.4**	**5,250.8**	**5,522.2**
Private industries	2	**1,716.1**	**1,954.6**	**2,180.9**	**2,370.2**	**2,661.7**	**2,769.0**	**2,979.9**	**3,340.4**	**3,570.8**	**3,755.3**	**4,019.4**	**4,019.4**	**4,344.0**	**4,622.2**	**4,842.7**
Agriculture, forestry, and fisheries	3	**54.4**	**63.3**	**74.6**	**66.7**	**81.1**	**77.0**	**62.7**	**83.7**	**84.3**	**81.7**	**88.5**	**88.5**	**90.8**	**104.8**	**111.3**
Farms	4	47.2	54.7	64.5	56.1	69.9	65.1	49.2	68.5	67.1	62.9	66.0	66.0	67.6	81.1	85.0
Agricultural services, forestry, and fisheries	5	7.2	8.6	10.1	10.6	11.2	11.9	13.6	15.2	17.2	18.8	22.5	22.5	23.2	23.7	26.3
Mining	6	**54.1**	**61.4**	**71.2**	**112.6**	**148.1**	**146.1**	**127.9**	**137.1**	**130.6**	**82.7**	**83.0**	**83.0**	**87.9**	**84.2**	**98.5**
Metal mining	7	2.2	2.6	3.8	4.4	4.4	3.2	3.3	3.2	2.5	2.5	2.6	2.6	4.8	5.2	5.6
Coal mining	8	10.3	10.9	12.2	13.6	14.6	16.0	13.4	14.6	13.8	14.0	12.5	12.5	12.5	12.9	13.3
Oil and gas extraction	9	38.0	43.5	50.3	89.1	124.0	122.6	106.3	113.0	108.4	59.5	60.8	60.8	63.2	58.8	71.8
Nonmetallic minerals, except fuels	10	3.6	4.4	4.8	5.5	5.0	4.3	4.9	6.2	5.9	6.7	7.2	7.2	7.3	7.4	7.8
Construction	11	**93.9**	**110.7**	**124.8**	**128.7**	**129.4**	**129.4**	**137.9**	**161.2**	**179.2**	**201.9**	**213.0**	**213.0**	**227.6**	**235.9**	**241.3**
Manufacturing	12	**466.8**	**521.9**	**575.7**	**588.3**	**653.0**	**647.5**	**693.3**	**773.9**	**798.5**	**829.3**	**878.4**	**877.8**	**961.0**	**1,004.6**	**1,018.3**
Durable goods	13	277.7	317.5	343.8	348.9	385.3	372.9	396.0	461.2	471.5	480.0	503.2	501.9	541.1	562.6	563.4
Lumber and wood products	14	16.3	19.6	21.6	19.2	17.4	16.5	21.4	24.1	23.6	26.6	31.0	31.3	31.6	32.6	31.6
Furniture and fixtures	15	6.5	7.5	7.5	8.4	9.2	9.3	10.7	12.1	13.6	14.2	15.2	15.2	15.7	16.5	16.0
Stone, clay, and glass products	16	15.0	17.4	18.7	18.0	17.9	15.7	19.1	22.2	23.7	26.3	24.8	24.0	24.3	25.1	25.1
Primary metal industries	17	33.4	40.5	45.0	44.2	49.4	36.5	32.4	39.3	35.7	36.9	36.3	36.3	43.3	45.7	43.4
Fabricated metal products	18	35.2	39.3	44.0	45.4	48.9	46.0	47.2	54.2	57.4	57.7	59.2	59.3	63.0	66.6	67.9
Machinery, except electrical	19	54.9	63.5	70.7	76.7	86.1	81.0	79.2	87.1	87.0	80.2	87.1	.....	.....	.....	.....
Industrial machinery and equipment	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	88.2	100.4	106.1	111.4
Electric and electronic equipment	21	39.3	44.2	48.5	54.5	61.3	60.5	67.6	80.0	83.5	84.9	91.3	.....	.....	.....	.....
Electronic and other electric equipment	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76.8	80.6	86.9	81.2
Motor vehicles and equipment	23	36.8	39.7	37.5	26.8	35.4	33.9	42.7	54.0	58.3	57.9	58.5	58.7	59.2	53.4	45.8
Other transportation equipment	24	19.1	21.7	24.4	26.3	25.3	38.6	39.9	46.3	48.2	53.6	57.5	56.6	56.4	59.8	65.7
Instruments and related products	25	13.4	15.4	16.9	19.5	22.7	23.4	24.8	27.7	26.8	27.6	27.3	40.4	49.7	51.6	56.4
Miscellaneous manufacturing industries	26	7.8	8.6	9.1	9.8	11.7	11.4	11.0	14.2	13.9	14.1	15.0	15.0	17.0	18.4	18.8
Nondurable goods	27	189.1	204.5	231.9	239.4	267.7	274.6	297.3	312.7	327.0	349.3	375.2	375.9	419.9	442.0	454.9
Food and kindred products	28	42.7	44.8	47.8	51.8	57.9	63.0	65.1	69.8	71.7	73.7	78.9	78.9	82.8	87.7	94.5
Tobacco manufactures	29	5.6	6.3	6.7	7.1	8.0	7.3	10.3	10.4	11.2	13.0	13.0	13.0	13.9	14.2	16.6
Textile mill products	30	13.0	14.0	14.6	14.8	15.7	15.0	17.1	17.6	17.3	19.1	20.3	20.3	20.5	21.1	22.0
Apparel and other textile products	31	14.8	16.2	17.1	17.3	18.5	18.7	20.4	21.0	21.0	22.4	22.6	22.6	23.5	25.3	24.6
Paper and allied products	32	17.9	19.6	21.8	22.8	24.8	26.3	27.4	31.4	32.9	35.0	38.7	38.5	44.1	47.1	46.5
Printing and publishing	33	24.4	27.5	31.5	32.7	35.1	38.3	42.5	47.5	52.5	56.7	61.0	61.0	65.1	70.5	72.2
Chemicals and allied products	34	39.2	41.9	45.5	47.6	55.7	56.6	62.0	64.7	67.0	73.5	82.3	82.3	94.4	99.6	103.1
Petroleum and coal products	35	13.9	14.9	26.0	24.3	28.4	25.5	26.1	21.6	23.5	25.8	25.9	25.9	40.7	38.5	36.7
Rubber and miscellaneous plastics products	36	14.5	15.8	17.3	17.0	19.3	19.6	22.4	24.8	26.4	27.0	29.0	29.9	31.1	34.0	34.3
Leather and leather products	37	3.0	3.3	3.6	4.1	4.4	4.3	4.1	3.8	3.6	3.1	3.5	3.5	3.8	3.9	4.3
Transportation and public utilities	38	**179.2**	**202.2**	**219.1**	**242.2**	**273.3**	**292.1**	**326.7**	**358.8**	**378.0**	**393.8**	**419.9**	**419.8**	**442.1**	**463.3**	**481.9**
Transportation	39	76.3	86.9	96.7	102.9	110.6	108.9	118.4	131.8	136.0	141.8	152.8	152.7	163.7	168.9	175.4
Railroad transportation	40	15.6	17.3	19.2	20.6	21.9	19.1	20.4	22.8	22.2	21.6	21.7	21.7	22.9	20.8	21.5
Local and interurban passenger transit	41	4.0	4.4	4.7	5.3	5.4	5.7	6.0	7.1	7.4	8.3	8.7	8.7	8.8	9.5	9.9
Trucking and warehousing	42	30.8	35.2	38.9	40.3	42.5	42.3	45.2	50.4	53.6	58.4	61.0	61.0	65.8	69.9	72.0
Water transportation	43	4.9	5.5	6.6	7.2	7.9	7.4	7.7	8.0	8.3	8.1	8.0	8.0	9.0	9.7	9.9
Transportation by air	44	13.8	15.5	16.4	18.1	18.6	19.0	23.0	26.7	27.2	29.4	35.1	35.1	38.6	38.6	40.2
Pipelines, except natural gas	45	2.7	3.8	5.1	5.2	6.1	7.2	7.3	6.5	6.1	4.7	5.2	5.2	4.4	4.3	4.6
Transportation services	46	4.4	5.1	5.8	6.3	8.2	8.4	8.9	10.3	11.2	11.4	13.1	13.1	14.3	16.2	17.3
Communications	47	50.0	56.7	61.6	68.9	79.2	88.6	98.5	104.8	112.6	120.0	127.6	127.6	135.1	139.9	146.2
Telephone and telegraph	48	44.8	50.6	54.9	61.7	70.8	78.9	88.0	92.4	100.2	107.9	113.7	111.2	116.0	118.4	123.0
Radio and television	49	5.2	6.1	6.6	7.2	8.4	9.6	10.4	12.4	12.4	12.1	13.9	16.4	19.0	21.5	23.2
Electric, gas, and sanitary services	50	52.9	58.6	60.9	70.4	83.5	94.7	109.8	122.2	129.4	132.0	139.5	139.5	143.4	154.5	160.4
Wholesale trade	51	**137.9**	**157.1**	**178.6**	**191.6**	**212.7**	**216.5**	**223.6**	**258.4**	**276.6**	**290.9**	**302.6**	**303.1**	**331.0**	**351.6**	**359.7**
Retail trade	52	**190.4**	**214.9**	**233.2**	**244.7**	**269.3**	**286.6**	**321.1**	**361.3**	**390.9**	**418.7**	**440.1**	**441.8**	**471.7**	**502.5**	**515.8**
Finance, insurance, and real estate	53	**283.6**	**328.6**	**370.8**	**418.4**	**469.6**	**503.9**	**565.3**	**619.0**	**681.8**	**743.5**	**809.9**	**809.7**	**866.3**	**926.5**	**974.7**
Banking	54	33.4	40.7	49.1	56.0	60.5	71.0	78.7	88.1	100.5	106.6	118.7	.....	.....	.....	.....
Depository institutions	55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	134.7	136.7	145.4	152.0
Credit agencies other than banks	56	6.6	9.2	9.9	6.7	6.6	3.2	11.7	13.0	18.5	24.2	34.0	.....	.....	.....	.....
Nondepository institutions	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.4	18.6	19.8	22.2
Security and commodity brokers	58	7.3	9.1	10.0	12.4	14.1	15.6	22.4	21.4	24.2	28.5	37.8	37.9	35.2	40.4	37.3
Insurance carriers	59	28.9	33.9	35.1	36.9	34.7	31.7	35.6	36.7	39.1	47.1	51.2	51.2	65.3	68.9	65.0
Insurance agents, brokers, and service	60	11.3	12.2	13.1	14.6	15.8	17.3	18.3	20.2	22.2	25.4	30.1	30.2	33.2	34.0	38.9
Real estate	61	195.1	221.8	252.5	288.6	326.6	354.1	385.3	427.5	459.7	484.8	521.3	521.5	568.1	609.5	641.3
Nonfarm housing services	62	139.4	156.0	176.1	205.1	234.5	257.4	273.7	297.0	322.4	344.1	368.9	368.9	396.8	423.8	449.6
Other real estate	63	55.7	65.8	76.5	83.5	92.1	96.7	111.5	130.5	137.2	140.6	152.4	152.6	171.4	185.6	191.7
Holding and other investment offices	64	1.2	1.7	1.1	3.2	11.4	11.0	13.3	12.0	17.6	27.0	16.9	16.9	9.3	8.4	18.2
Services	65	**255.7**	**294.6**	**333.0**	**377.0**	**425.1**	**469.8**	**521.3**	**586.9**	**650.9**	**712.8**	**784.0**	**782.5**	**865.5**	**948.8**	**1,041.0**
Hotels and other lodging places	66	12.9	15.7	17.9	19.6	22.2	23.9	26.9	30.9	35.7	38.8	42.6	42.6	45.2	49.3	51.3
Personal services	67	13.5	15.2	16.3	17.5	18.4	19.7	21.8	24.1	27.9	30.4	32.2	31.0	34.2	35.4	36.1
Business services	68	42.9	50.4	59.9	69.3	80.2	90.9	104.8	124.5	143.3	158.6	174.6	141.6	162.2	175.5	194.1
Auto repair, services, and parking	69	13.3	16.0	18.2	19.1	20.5	21.7	24.7	28.3	33.3	36.2	38.2	38.2	41.1	42.9	46.4
Miscellaneous repair services	70	5.8	6.8	7.6	8.9	9.2	9.5	10.6	12.7	12.2	13.6	13.7	13.7	15.1	16.3	17.2
Motion pictures	71	4.4	6.1	6.1	6.0	6.3	7.3	7.7	8.8	9.9	11.3	12.9	13.7	13.8	17.4	17.6
Amusement and recreation services	72	10.5	11.7	13.0	14.2	15.6	16.9	18.8	20.0	22.6	24.7	27.4	28.1	30.4	34.6	39.9
Health services	73	75.4	85.4	96.0	111.5	128.4	145.9	159.4	171.8	186.2	201.2	228.9	228.9	248.5	273.0	302.1
Legal services	74	16.9	18.8	21.3	24.9	27.9	32.9	37.1	43.6	48.0	55.9	61.1	61.1	68.7	73.0	79.2
Educational services	75	12.2	13.2	14.5	16.4	18.0	19.9	21.7	24.0	25.9	27.4	30.4	30.3	33.4	36.3	39.0
Social services and membership organizations	76	18.7	21.3	23.5	26.1	28.3	30.3	32.7	35.6	38.1	41.6	45.7	45.7	50.8	56.0	60.7
Miscellaneous professional services	77	23.3	27.4	32.3	37.3	44.0	44.7	48.7	55.4	60.5	65.3	68.8	.....	.....	.....	.....
Other services	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100.0	113.7	130.3	148.1
Private households	79	5.9	6.5	6.4	6.1	6.2	6.3	6.3	7.3	7.3	7.7	7.7	7.7	8.3	8.9	9.4
Government	80	**247.1**	**270.5**	**293.9**	**324.2**	**358.1**	**388.0**	**415.0**	**445.9**	**481.8**	**512.1**	**545.3**	**545.3**	**584.8**	**627.6**	**674.1**
Federal	81	**89.5**	**97.8**	**104.7**	**115.4**	**131.2**	**141.8**	**150.7**	**159.9**	**170.9**	**175.7**	**185.4**	**185.4**	**196.6**	**207.8**	**220.6**
General government	82	75.6	81.8	87.1	96.3	107.7	117.3	125.0	132.2	140.3	143.7	151.4	151.4	159.8	169.1	180.3
Government enterprises	83	13.9	16.0	17.6	19.1	23.5	24.5	25.7	27.7	30.6	32.0	34.0	34.0	36.8	38.8	40.3
State and local	84	**157.7**	**172.7**	**189.2**	**208.8**	**226.8**	**246.2**	**264.4**	**286.0**	**310.9**	**336.4**	**360.0**	**360.0**	**388.2**	**419.7**	**453.6**
General government	85	145.0	158.9	174.8	193.5	210.7	228.5	243.9	261.9	283.2	305.9	327.3	327.3	351.9	379.8	411.4
Government enterprises	86	12.7	13.9	14.5	15.3	16.1	17.7	20.4	24.1	27.6	30.4	32.7	32.7	36.3	40.0	42.2
Statistical discrepancy [1]	87	**10.9**	**7.6**	**13.8**	**13.6**	**10.9**	**−7.4**	**10.2**	**−9.0**	**−13.9**	**1.2**	**−24.8**	**−24.8**	**−28.4**	**1.1**	**5.4**

1. Equals GDP measured as the sum of expenditures less gross domestic income—that is, GDP measured as the costs incurred and profits earned in domestic production.

* Estimates for the year 1987 are shown on the basis of both the 1972 and 1987 Standard Industrial Classification (SIC). The estimate based on the 1972 SIC is shown first and is comparable with estimates back to 1977; the estimate based on the 1987 SIC is shown second and is comparable with estimates after 1987.

Table 10.—Revisions in Gross Domestic Product by Industry in Current Dollars for Selected Years

[Billions of dollars]

	Line	1977			1982			1987			1989		
		Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision
Gross domestic product	1	**1,965.1**	**1,974.1**	**9.0**	**3,114.8**	**3,149.6**	**34.8**	**4,486.7**	**4,539.9**	**53.2**	**5,163.2**	**5,250.8**	**87.6**
Private industries	2	**1,717.7**	**1,716.1**	**–1.6**	**2,731.0**	**2,769.0**	**38.0**	**3,962.4**	**4,019.4**	**57.0**	**4,561.0**	**4,622.2**	**61.2**
Agriculture, forestry, and fisheries	3	**58.9**	**54.4**	**–4.5**	**89.6**	**77.0**	**–12.6**	**100.7**	**88.5**	**–12.2**	**113.5**	**104.8**	**–8.7**
Farms	4	50.4	47.2	–3.2	77.0	65.1	–11.9	78.8	66.0	–12.8	88.6	81.1	–7.5
Agricultural services, forestry, and fisheries	5	8.5	7.2	–1.3	12.6	11.9	–.7	21.9	22.5	.6	24.9	23.7	–1.2
Mining	6	**50.2**	**54.1**	**3.9**	**132.1**	**146.1**	**14.0**	**76.8**	**83.0**	**6.2**	**80.3**	**84.2**	**3.9**
Metal mining	7	1.9	2.2	.3	2.3	3.2	.9	2.4	2.6	.2	3.6	5.2	1.6
Coal mining	8	9.6	10.3	.7	15.1	16.0	.9	13.2	12.5	–.7	13.6	12.9	–.7
Oil and gas extraction	9	34.9	38.0	3.1	110.2	122.6	12.4	54.0	60.8	6.8	55.7	58.8	3.1
Nonmetallic minerals, except fuels	10	3.8	3.6	–.2	4.5	4.3	–.2	7.2	7.2	0	7.4	7.4	0
Construction	11	**97.9**	**93.9**	**–4.0**	**140.9**	**129.4**	**–11.5**	**219.2**	**213.0**	**–6.2**	**247.7**	**235.9**	**–11.8**
Manufacturing	12	**465.3**	**466.8**	**1.5**	**634.6**	**647.5**	**12.9**	**875.5**	**878.4**	**2.9**	**966.0**	**1,004.6**	**38.6**
Durable goods	13	277.7	277.7	0	362.5	372.9	10.4	499.9	503.2	3.3	541.0	562.6	21.6
Lumber and wood products	14	15.9	16.3	.4	16.0	16.5	.5	29.4	31.0	1.6	32.2	32.6	.4
Furniture and fixtures	15	6.7	6.5	–.2	9.5	9.3	–.2	15.3	15.2	–.1	16.0	16.5	.5
Stone, clay, and glass products	16	15.3	15.0	–.3	18.2	15.7	–2.5	25.7	24.8	–.9	26.3	25.1	–1.2
Primary metal industries	17	33.5	33.4	–.1	35.3	36.5	1.2	36.1	36.3	.2	44.4	45.7	1.3
Fabricated metal products	18	35.4	35.2	–.2	46.3	46.0	–.3	60.4	59.2	–1.2	68.0	66.6	–1.4
Machinery, except electrical	19	55.4	54.9	–.5	80.0	81.0	1.0	88.9	87.1	–1.8	97.3	.....	.....
Industrial machinery and equipment	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	106.1	.....
Electric and electronic equipment	21	39.5	39.3	–.2	61.8	60.5	–1.3	89.6	91.3	1.7	96.9	.....	.....
Electronic and other electric equipment	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	86.9	.....
Motor vehicles and equipment	23	35.8	36.8	1.0	29.5	33.9	4.4	52.5	58.5	6.0	50.1	53.4	3.3
Other transportation equipment	24	19.0	19.1	.1	32.2	38.6	6.4	59.9	57.5	–2.4	62.2	59.8	–2.4
Instruments and related products	25	13.2	13.4	.2	22.6	23.4	.8	26.8	27.3	.5	30.5	51.6	.....
Miscellaneous manufacturing industries	26	8.0	7.8	–.2	11.1	11.4	.3	15.1	15.0	–.1	17.1	18.4	1.3
Nondurable goods	27	187.7	189.1	1.4	272.1	274.6	2.5	375.7	375.2	–.5	425.0	442.0	17.0
Food and kindred products	28	42.7	42.7	0	61.4	63.0	1.6	75.1	78.9	3.8	81.5	87.7	6.2
Tobacco manufactures	29	5.7	5.6	–.1	8.9	7.3	–1.6	14.1	13.0	–1.1	16.1	14.2	–1.9
Textile mill products	30	14.0	13.0	–1.0	14.8	15.0	.2	20.1	20.3	.2	20.8	21.1	.3
Apparel and other textile products	31	14.5	14.8	.3	18.9	18.7	–.2	22.5	22.6	.1	24.6	25.3	.7
Paper and allied products	32	18.0	17.9	–.1	26.7	26.3	–.4	40.2	38.7	–1.5	46.8	47.1	.3
Printing and publishing	33	23.3	24.4	1.1	38.4	38.3	–.1	61.1	61.0	–.1	68.2	70.5	2.3
Chemicals and allied products	34	37.5	39.2	1.7	55.3	56.6	1.3	80.9	82.3	1.4	98.8	99.6	.8
Petroleum and coal products	35	14.5	13.9	–.6	24.4	25.5	1.1	29.6	25.9	–3.7	33.7	38.5	4.8
Rubber and miscellaneous plastics products	36	14.4	14.5	.1	19.3	19.6	.3	28.9	29.0	.1	31.1	34.0	2.9
Leather and leather products	37	3.0	3.0	0	4.1	4.3	.2	3.3	3.5	.2	3.5	3.9	.4
Transportation and public utilities	38	**178.9**	**179.2**	**.3**	**288.4**	**292.1**	**3.7**	**413.9**	**419.9**	**6.0**	**460.9**	**463.3**	**2.4**
Transportation	39	77.0	76.3	–.7	110.8	108.9	–1.9	153.9	152.8	–1.1	171.5	168.9	–2.6
Railroad transportation	40	15.5	15.6	.1	19.0	19.1	.1	20.9	21.7	.8	21.5	20.8	–.7
Local and interurban passenger transit	41	4.4	4.0	–.4	6.0	5.7	–.3	8.3	8.7	.4	9.5	9.5	0
Trucking and warehousing	42	32.3	30.8	–1.5	46.6	42.3	–4.3	66.0	61.0	–5.0	72.9	69.9	–3.0
Water transportation	43	4.9	4.9	0	7.4	7.4	0	7.9	8.0	.1	8.5	9.7	1.2
Transportation by air	44	13.7	13.8	.1	19.0	19.0	0	34.7	35.1	.4	40.0	38.6	–1.4
Pipelines, except natural gas	45	2.1	2.7	.6	4.9	7.2	2.3	3.8	5.2	1.4	4.1	4.3	.2
Transportation services	46	4.1	4.4	.3	7.8	8.4	.6	12.3	13.1	.8	15.0	16.2	1.2
Communications	47	48.8	50.0	1.2	85.6	88.6	3.0	122.8	127.6	4.8	133.7	139.9	6.2
Telephone and telegraph	48	44.0	44.8	.8	77.3	78.9	1.6	109.6	113.7	4.1	117.3	118.4	1.1
Radio and television	49	4.7	5.2	.5	8.3	9.6	1.3	13.1	13.9	.8	16.4	21.5	5.1
Electric, gas, and sanitary services	50	53.1	52.9	–.2	92.0	94.7	2.7	137.2	139.5	2.3	155.6	154.5	–1.1
Wholesale trade	51	**139.8**	**137.9**	**–1.9**	**219.0**	**216.5**	**–2.5**	**294.8**	**302.6**	**7.8**	**339.5**	**351.6**	**12.1**
Retail trade	52	**193.0**	**190.4**	**–2.6**	**287.5**	**286.6**	**–.9**	**426.4**	**440.1**	**13.7**	**486.0**	**502.5**	**16.5**
Finance, insurance, and real estate	53	**280.3**	**283.6**	**3.3**	**475.1**	**503.9**	**28.8**	**761.6**	**809.9**	**48.3**	**896.7**	**926.5**	**29.8**
Banking	54	31.0	33.4	2.4	59.8	71.0	11.2	88.7	118.7	30.0	119.4	.....	.....
Depository institutions	55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	145.4	.....
Credit agencies other than banks	56	4.7	6.6	1.9	5.4	3.2	–2.2	18.0	34.0	16.0	20.5	.....	.....
Nondepository institutions	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19.8	.....
Security and commodity brokers	58	5.7	7.3	1.6	13.1	15.6	2.5	35.8	37.8	2.0	43.8	40.4	–3.4
Insurance carriers	59	28.5	28.9	.4	29.8	31.7	1.9	55.4	51.2	–4.2	60.4	68.9	8.5
Insurance agents, brokers, and service	60	11.0	11.3	.3	17.0	17.3	.3	30.6	30.1	–.5	37.4	34.0	–3.4
Real estate	61	198.7	195.1	–3.6	342.7	354.1	11.4	517.3	521.3	4.0	607.1	609.5	2.4
Nonfarm housing services	62	137.1	139.4	2.3	243.8	257.4	13.6	371.8	368.9	–2.9	431.2	423.8	–7.4
Other real estate	63	61.7	55.7	–6.0	98.9	96.7	–2.2	145.5	152.4	6.9	175.9	185.6	9.7
Holding and other investment offices	64	.6	1.2	.6	7.2	11.0	3.8	15.9	16.9	1.0	8.1	8.4	.3
Services	65	**253.4**	**255.7**	**2.3**	**463.6**	**469.8**	**6.2**	**793.6**	**784.0**	**–9.6**	**970.5**	**948.8**	**–21.7**
Hotels and other lodging places	66	12.7	12.9	.2	21.7	23.9	2.2	36.0	42.6	6.6	44.5	49.3	4.8
Personal services	67	14.2	13.5	–.7	21.3	19.7	–1.6	34.0	32.2	–1.8	43.0	35.4	–7.6
Business services	68	42.1	42.9	.8	90.7	90.9	.2	180.1	174.6	–5.5	222.9	175.5	.....
Auto repair, services, and parking	69	14.8	13.3	–1.5	23.5	21.7	–1.8	38.1	38.2	.1	43.6	42.9	–.7
Miscellaneous repair services	70	5.9	5.8	–.1	9.6	9.5	–.1	13.8	13.7	–.1	16.9	16.3	–.6
Motion pictures	71	4.2	4.4	.2	6.3	7.3	1.0	12.5	12.9	.4	14.7	17.4	2.7
Amusement and recreation services	72	9.8	10.5	.7	15.1	16.9	1.8	24.8	27.4	2.6	29.8	34.6	4.8
Health services	73	73.6	75.4	1.8	142.0	145.9	3.9	226.1	228.9	2.8	273.3	273.0	–.3
Legal services	74	15.6	16.9	1.3	30.6	32.9	2.3	60.0	61.1	1.1	75.2	73.0	–2.2
Educational services	75	12.1	12.2	.1	19.1	19.9	.8	29.5	30.4	.9	35.5	36.3	.8
Social services and membership organizations	76	18.7	18.7	0	30.5	30.3	–.2	45.8	45.7	–.1	56.0	56.0	0
Miscellaneous professional services	77	23.8	23.3	–.5	45.7	44.7	–1.0	83.6	68.8	–14.8	104.9	.....	.....
Other services	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	130.3	.....
Private households	79	5.9	5.9	0	7.6	6.3	–1.3	9.1	7.7	–1.4	10.3	8.9	–1.4
Government	80	**247.4**	**247.1**	**–.3**	**383.9**	**388.0**	**4.1**	**534.8**	**545.3**	**10.5**	**619.3**	**627.6**	**8.3**
Federal	81	**89.8**	**89.5**	**–.3**	**139.2**	**141.8**	**2.6**	**181.9**	**185.4**	**3.5**	**208.2**	**207.8**	**–.4**
General government	82	75.5	75.6	.1	117.0	117.3	.3	150.8	151.4	.6	168.6	169.1	.5
Government enterprises	83	14.2	13.9	–.3	22.2	24.5	2.3	31.0	34.0	3.0	39.7	38.8	–.9
State and local	84	**157.7**	**157.7**	**0**	**244.7**	**246.2**	**1.5**	**352.9**	**360.0**	**7.1**	**411.1**	**419.7**	**8.6**
General government	85	145.0	145.0	0	226.9	228.5	1.6	321.1	327.3	6.2	373.0	379.8	6.8
Government enterprises	86	12.7	12.7	0	17.9	17.7	–.2	31.9	32.7	.8	38.1	40.0	1.9
Statistical discrepancy [1]	87	**0**	**10.9**	**10.9**	**–.1**	**–7.4**	**–7.3**	**–10.6**	**–24.8**	**–14.2**	**–17.0**	**1.1**	**18.1**

1. Equals GDP measured as the sum of expenditures less gross domestic income—that is, GDP measured as the costs incurred and profits earned in domestic production.

NOTE.— In this table, revised estimates for 1987 and previously published estimates for 1987 and 1989 are based on the 1972 Standard Industrial Classification (SIC); revised estimates for 1989 are based on the 1987 SIC. Revisions are not shown for those industries with 1987 and 1972 SIC definitions that are significantly different.

Table 11.—Indexes of Real Gross Domestic Product by Industry and Annual Rates of Change for Selected Years [1]

	Line	Index numbers, 1987=100						Average annual rates of change (percent)		
		1977	1982	1987	1988	1989	1990	1977–90	1977–82	1982–90
Gross domestic product	1	**75.5**	**82.3**	**100.0**	**103.9**	**106.6**	**107.4**	**2.7**	**1.7**	**3.4**
Private industries	2	**75.1**	**80.8**	**100.0**	**104.2**	**106.7**	**107.3**	**2.8**	**1.5**	**3.6**
Agriculture, forestry, and fisheries	3	**71.9**	**82.8**	**100.0**	**96.1**	**99.4**	**106.4**	**3.1**	**2.8**	**3.2**
Farms	4	81.5	91.2	100.0	95.7	100.3	106.8	2.1	2.3	2.0
Agricultural services, forestry, and fisheries	5	43.6	58.2	100.0	97.2	96.7	105.2	7.0	6.0	7.7
Mining	6	**100.6**	**88.0**	**100.0**	**113.7**	**100.8**	**105.6**	**.4**	**–2.6**	**2.3**
Metal mining	7	63.7	98.8	100.0	169.3	208.5	228.5	10.2	8.9	11.0
Coal mining	8	76.1	88.9	100.0	110.5	118.6	124.5	3.9	3.2	4.3
Oil and gas extraction	9	108.0	89.7	100.0	113.6	92.5	96.3	–.9	–3.7	.9
Nonmetallic minerals, except fuels	10	93.3	67.2	100.0	99.6	101.5	105.9	1.0	–6.5	5.9
Construction	11	**89.6**	**77.4**	**100.0**	**99.1**	**99.9**	**97.8**	**.7**	**–2.9**	**3.0**
Manufacturing	12	**78.0**	**78.9**	**100.0**	**105.3**	**106.2**	**105.1**	**2.3**	**.2**	**3.6**
Durable goods	13	76.7	75.5	100.0	107.0	108.2	106.6	2.6	–.3	4.4
Lumber and wood products	14	74.5	62.5	100.0	96.9	94.0	91.8	1.6	–3.5	4.9
Furniture and fixtures	15	74.7	73.1	100.0	99.8	101.2	93.6	1.8	–.4	3.1
Stone, clay, and glass products	16	105.8	73.2	100.0	104.3	108.2	108.1	.2	–7.1	5.0
Primary metal industries	17	138.9	103.5	100.0	95.0	91.7	96.8	–2.7	–5.7	–.8
Fabricated metal products	18	92.1	83.2	100.0	104.4	103.0	99.4	.6	–2.0	2.2
Machinery, except electrical	19	53.6	68.2	100.0	.....	.....	.....	.....	4.9	.....
Industrial machinery and equipment	20	.....	.....	100.0	110.3	116.2	115.6	.....	.....	.....
Electric and electronic equipment	21	59.7	74.5	100.0	.....	.....	.....	.....	4.5	.....
Electronic and other electric equipment	22	.....	.....	100.0	110.2	118.3	114.5	.....	.....	.....
Motor vehicles and equipment	23	115.8	67.2	100.0	107.2	96.2	81.8	–2.6	–10.3	2.5
Other transportation equipment	24	62.9	77.6	100.0	103.1	107.8	113.7	4.7	4.3	4.9
Instruments and related products	25	82.5	91.7	100.0	123.3	122.7	130.4	.....	2.1	.....
Miscellaneous manufacturing industries	26	85.5	78.2	100.0	113.2	115.4	113.6	2.2	–1.8	4.8
Nondurable goods	27	79.8	83.8	100.0	103.1	103.6	103.2	2.0	1.0	2.6
Food and kindred products	28	79.0	94.3	100.0	104.4	100.8	103.2	2.1	3.6	1.1
Tobacco manufactures	29	127.9	122.1	100.0	93.5	79.8	76.6	–3.9	–.9	–5.7
Textile mill products	30	78.3	80.7	100.0	98.6	102.9	104.7	2.3	.6	3.3
Apparel and other textile products	31	84.3	83.3	100.0	104.0	109.2	104.8	1.7	–.2	2.9
Paper and allied products	32	83.9	80.8	100.0	103.1	102.5	109.5	2.1	–.8	3.9
Printing and publishing	33	81.5	87.8	100.0	103.5	105.0	102.0	1.7	1.5	1.9
Chemicals and allied products	34	80.5	75.8	100.0	101.1	102.2	106.9	2.2	–1.2	4.4
Petroleum and coal products	35	66.6	76.0	100.0	114.7	117.3	87.9	2.2	2.7	1.8
Rubber and miscellaneous plastics products	36	61.5	67.2	100.0	100.5	107.7	108.7	4.5	1.8	6.2
Leather and leather products	37	150.8	132.4	100.0	106.7	107.2	110.5	–2.4	–2.6	–2.2
Transportation and public utilities	38	**74.9**	**78.9**	**100.0**	**102.8**	**105.5**	**108.6**	**2.9**	**1.1**	**4.1**
Transportation	39	76.7	75.6	100.0	98.3	101.3	105.3	2.5	–.3	4.2
Railroad transportation	40	74.0	71.7	100.0	106.5	101.9	108.4	3.0	–.6	5.3
Local and interurban passenger transit	41	114.6	84.1	100.0	93.1	100.4	100.8	–1.0	–5.9	2.2
Trucking and warehousing	42	86.3	75.5	100.0	94.7	99.5	99.5	1.1	–2.6	3.5
Water transportation	43	107.4	112.6	100.0	96.5	98.3	101.2	–.5	.9	–1.3
Transportation by air	44	48.6	61.3	100.0	99.2	101.6	113.8	6.8	4.8	8.0
Pipelines, except natural gas	45	116.4	128.8	100.0	91.9	96.3	92.8	–1.7	1.9	–3.8
Transportation services	46	51.8	71.1	100.0	105.9	112.5	115.1	6.3	6.5	6.2
Communications	47	57.6	79.1	100.0	105.9	106.3	110.0	5.1	6.6	4.2
Telephone and telegraph	48	53.3	76.5	100.0	105.2	104.5	109.0	5.5	7.5	4.2
Radio and television	49	92.8	100.2	100.0	110.3	118.6	116.8	3.1	1.5	4.1
Electric, gas, and sanitary services	50	88.6	82.3	100.0	104.8	109.3	110.9	1.7	–1.5	3.8
Wholesale trade	51	**56.2**	**72.1**	**100.0**	**103.4**	**108.7**	**106.6**	**5.1**	**5.1**	**5.0**
Retail trade	52	**72.2**	**76.5**	**100.0**	**105.7**	**109.5**	**108.2**	**3.2**	**1.2**	**4.5**
Finance, insurance, and real estate	53	**73.7**	**87.5**	**100.0**	**104.6**	**107.3**	**107.2**	**2.9**	**3.5**	**2.6**
Banking	54	78.1	95.2	100.0	.....	.....	.....	.....	4.1	.....
Depository institutions	55	.....	.....	100.0	100.0	100.6	100.4	.....	.....	.....
Credit agencies other than banks	56	52.9	65.1	100.0	.....	.....	.....	.....	4.2	.....
Nondepository institutions	57	.....	.....	100.0	100.3	99.7	104.1	.....	.....	.....
Security and commodity brokers	58	33.8	47.2	100.0	96.2	110.1	105.4	9.1	6.9	10.5
Insurance carriers	59	105.1	104.3	100.0	118.8	129.2	112.3	.5	–.1	1.0
Insurance agents, brokers, and service	60	71.0	85.1	100.0	103.5	102.2	108.9	3.4	3.7	3.2
Real estate	61	74.6	89.2	100.0	105.3	107.4	108.6	2.9	3.6	2.5
Nonfarm housing services	62	74.6	92.1	100.0	102.6	104.4	105.8	2.7	4.3	1.8
Other real estate	63	74.6	82.2	100.0	112.0	114.8	115.3	3.4	2.0	4.3
Holding and other investment offices	64	53.4	69.1	100.0	103.1	103.1	108.9	5.7	5.4	5.8
Services	65	**68.7**	**80.3**	**100.0**	**104.0**	**108.2**	**111.5**	**3.8**	**3.1**	**4.2**
Hotels and other lodging places	66	78.2	74.2	100.0	101.3	106.4	103.9	2.2	–1.0	4.3
Personal services	67	88.1	82.4	100.0	106.1	103.9	99.2	.6	–1.4	1.9
Business services	68	45.5	64.8	100.0	107.6	115.3	121.7	.....	7.3	.....
Auto repair, services, and parking	69	75.8	79.5	100.0	102.9	100.1	102.6	2.4	1.0	3.3
Miscellaneous repair services	70	80.3	90.9	100.0	109.2	116.6	117.7	3.0	2.4	3.3
Motion pictures	71	59.4	77.6	100.0	95.0	109.9	102.7	4.9	5.6	4.4
Amusement and recreation services	72	60.4	77.5	100.0	103.4	111.6	122.3	5.8	5.1	6.2
Health services	73	76.9	90.2	100.0	100.4	101.7	103.8	2.3	3.2	1.8
Legal services	74	75.3	85.6	100.0	108.0	107.9	107.7	2.8	2.6	2.9
Educational services	75	81.3	86.5	100.0	104.0	106.3	108.6	2.3	1.2	2.9
Social services and membership organizations	76	74.3	83.3	100.0	109.8	119.1	125.0	4.1	2.3	5.2
Miscellaneous professional services	77	64.0	79.0	100.0	.....	.....	.....	.....	4.3	.....
Other services	78	.....	.....	100.0	103.0	111.4	119.6	.....	.....	.....
Private households	79	117.8	85.2	100.0	106.6	112.7	114.4	–.3	–6.2	3.7
Government	80	**87.2**	**93.0**	**100.0**	**101.9**	**104.0**	**106.7**	**1.6**	**1.3**	**1.7**
Federal	81	**92.6**	**95.1**	**100.0**	**101.6**	**102.5**	**104.3**	**.9**	**.5**	**1.2**
General government	82	90.5	94.1	100.0	101.4	101.9	103.2	1.0	.8	1.2
Government enterprises	83	102.1	99.5	100.0	102.4	105.1	109.1	.5	–.5	1.2
State and local	84	**84.4**	**91.9**	**100.0**	**102.1**	**104.7**	**107.9**	**1.9**	**1.7**	**2.0**
General government	85	85.1	92.2	100.0	102.0	104.7	108.0	1.8	1.6	2.0
Government enterprises	86	77.7	89.2	100.0	103.2	105.0	106.9	2.5	2.8	2.3
Addendum:										
Gross domestic product with fixed 1987 weights	87	77.8	82.8	100.0	103.9	106.6	107.4	2.5	1.3	3.3

1. For 1977 and 1982, indexes for GDP and for manufacturing are the benchmark-years-weighted measures. Indexes for nonmanufacturing industries for all years and for 1988 to 1990 for GDP and manufacturing are the fixed-weighted measures. See the box on page 36 for additional information.

NOTE.— Indexes for 1977 and 1982 are calculated using the 1987 value based on the 1972 Standard Industrial Classification (SIC). Indexes for 1988–90 are calculated using the 1987 value based on the 1987 SIC. Rates of change are not shown for those industries with 1987 and 1972 SIC definitions that are significantly different.

Table 12.—Gross Domestic Product by Industry in Constant Dollars, Fixed 1987 Weights [1]

[Billions of 1987 dollars]

	Line	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987*	1987*	1988	1989	1990
Gross domestic product	1	**3,533.3**	**3,703.5**	**3,796.8**	**3,776.3**	**3,843.1**	**3,760.3**	**3,906.6**	**4,148.5**	**4,279.8**	**4,404.5**	**4,539.9**	**4,539.9**	**4,718.6**	**4,838.0**	**4,877.5**
Private industries	2	**3,017.3**	**3,169.7**	**3,238.1**	**3,202.7**	**3,272.6**	**3,246.3**	**3,361.8**	**3,620.4**	**3,759.2**	**3,871.2**	**4,019.4**	**4,019.4**	**4,188.0**	**4,288.8**	**4,311.4**
Agriculture, forestry, and fisheries	3	**63.7**	**59.2**	**62.4**	**63.2**	**72.7**	**73.3**	**68.4**	**71.5**	**81.9**	**84.5**	**88.5**	**88.5**	**85.1**	**88.0**	**94.2**
Farms	4	53.8	48.2	50.4	51.0	60.8	60.2	53.7	55.1	64.2	64.3	66.0	66.0	63.2	66.2	70.5
Agricultural services, forestry, and fisheries	5	9.8	11.1	12.0	12.2	11.9	13.1	14.8	16.4	17.7	20.2	22.5	22.5	21.9	21.8	23.7
Mining	6	**83.5**	**85.0**	**71.9**	**79.9**	**74.2**	**73.1**	**71.3**	**82.0**	**83.3**	**83.0**	**83.0**	**83.0**	**94.4**	**83.7**	**87.7**
Metal mining	7	1.7	1.5	1.6	1.6	2.5	2.6	2.7	2.8	2.5	2.9	2.6	2.6	4.4	5.4	6.0
Coal mining	8	9.5	8.9	8.5	10.1	10.3	11.1	10.2	11.5	11.3	13.0	12.5	12.5	13.8	14.8	15.6
Oil and gas extraction	9	65.7	67.1	54.7	61.8	56.1	54.5	52.9	60.9	63.2	60.2	60.8	60.8	69.1	56.2	58.6
Nonmetallic minerals, except fuels	10	6.7	7.5	7.0	6.4	5.3	4.8	5.4	6.8	6.3	6.9	7.2	7.2	7.1	7.3	7.6
Construction	11	**190.8**	**198.8**	**200.3**	**185.4**	**174.7**	**164.9**	**170.0**	**190.9**	**209.0**	**209.1**	**213.0**	**213.0**	**211.2**	**212.8**	**208.5**
Manufacturing	12	**741.6**	**773.1**	**777.1**	**725.4**	**746.7**	**711.1**	**733.8**	**791.4**	**810.5**	**819.1**	**878.4**	**877.8**	**924.6**	**932.4**	**922.8**
Durable goods	13	440.9	460.9	458.0	424.3	429.7	392.4	402.5	458.4	468.1	471.5	503.2	501.9	537.0	543.0	535.0
Lumber and wood products	14	23.1	23.3	23.4	21.6	19.5	19.3	22.5	25.3	24.9	27.5	31.0	31.3	30.3	29.4	28.7
Furniture and fixtures	15	11.1	12.0	11.1	11.6	11.8	11.0	12.3	13.5	14.3	14.3	15.2	15.2	15.2	15.4	14.2
Stone, clay, and glass products	16	25.8	26.8	26.7	23.8	22.3	18.2	22.0	23.9	24.5	25.9	24.8	24.0	25.1	26.0	26.0
Primary metal industries	17	54.7	58.0	54.1	49.2	51.0	38.0	32.3	37.7	35.3	38.5	36.3	36.3	34.5	33.3	35.1
Fabricated metal products	18	52.7	54.9	57.3	54.6	55.2	49.1	50.6	56.4	57.6	56.4	59.2	59.3	61.9	61.1	59.0
Machinery, except electrical	19	81.8	85.0	85.9	81.2	81.6	69.4	66.8	73.7	77.9	74.6	87.1	.....	.....	.....	.....
Industrial machinery and equipment	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	88.2	97.3	102.6	102.0
Electric and electronic equipment	21	54.1	60.1	64.3	69.8	72.7	66.9	70.6	80.4	83.4	83.8	91.3	.....	.....	.....	.....
Electronic and other electric equipment	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76.8	84.6	90.8	87.9
Motor vehicles and equipment	23	66.7	68.1	60.5	39.8	45.0	39.4	47.2	59.3	62.8	58.0	58.5	58.7	63.0	56.5	48.1
Other transportation equipment	24	35.3	36.5	38.2	38.3	32.3	44.2	41.8	45.5	46.7	51.2	57.5	56.6	58.3	61.0	64.3
Instruments and related products	25	22.1	23.1	24.3	24.2	26.1	25.3	26.1	27.9	26.7	27.3	27.3	40.4	49.8	49.6	52.7
Miscellaneous manufacturing industries	26	13.6	13.2	12.1	10.4	12.2	11.6	10.2	14.7	14.1	14.0	15.0	15.0	17.0	17.3	17.1
Nondurable goods	27	300.7	312.2	319.2	301.1	317.1	318.7	331.3	333.0	342.4	347.7	375.2	375.9	387.6	389.4	387.8
Food and kindred products	28	56.6	60.9	62.4	64.3	65.9	73.3	72.2	71.2	74.7	73.1	78.9	78.9	82.4	79.5	81.4
Tobacco manufactures	29	18.9	19.9	19.8	19.7	20.9	17.3	15.7	14.7	14.4	14.5	13.0	13.0	12.2	10.4	10.0
Textile mill products	30	17.0	17.3	17.8	17.3	17.2	16.3	18.1	18.3	18.0	19.3	20.3	20.3	20.0	20.9	21.2
Apparel and other textile products	31	18.7	20.5	21.5	20.4	19.9	18.6	20.4	21.0	20.9	21.9	22.6	22.6	23.5	24.7	23.7
Paper and allied products	32	32.8	33.9	33.5	30.9	31.0	31.9	34.4	35.4	35.7	36.9	38.7	38.5	39.7	39.5	42.2
Printing and publishing	33	49.1	51.5	54.5	52.7	53.6	53.8	54.9	57.4	58.9	58.6	61.0	61.0	63.1	64.1	62.2
Chemicals and allied products	34	65.1	67.7	65.1	57.5	62.0	63.8	68.1	66.4	67.0	74.8	82.3	82.3	83.2	84.1	88.0
Petroleum and coal products	35	21.0	17.6	21.1	15.0	21.4	19.6	21.7	20.6	23.3	19.4	25.9	25.9	29.7	30.4	22.8
Rubber and miscellaneous plastics products	36	16.5	17.8	18.9	18.5	20.4	19.4	21.3	24.2	26.1	26.0	29.0	29.9	30.0	32.2	32.5
Leather and leather products	37	4.9	5.1	4.5	4.8	4.7	4.6	4.2	4.0	3.6	3.2	3.5	3.5	3.7	3.7	3.9
Transportation and public utilities	38	**314.3**	**325.1**	**335.5**	**336.3**	**337.1**	**331.3**	**351.7**	**377.6**	**381.8**	**386.9**	**419.9**	**419.8**	**431.5**	**443.0**	**456.0**
Transportation	39	117.2	121.2	126.2	120.2	116.5	115.5	127.3	136.6	137.4	142.6	152.8	152.7	150.1	154.7	160.9
Railroad transportation	40	16.1	17.6	18.2	18.5	17.9	15.6	17.3	19.6	19.6	19.5	21.7	21.7	23.1	22.1	23.5
Local and interurban passenger transit	41	9.9	9.6	9.5	8.5	7.7	7.3	7.4	8.3	8.3	8.6	8.7	8.7	8.1	8.7	8.7
Trucking and warehousing	42	52.7	52.5	53.5	50.8	47.1	46.1	52.2	57.2	58.2	59.5	61.0	61.0	57.8	60.7	60.7
Water transportation	43	8.6	9.2	9.3	9.3	9.7	9.0	8.5	8.6	8.4	8.2	8.0	8.0	7.7	7.8	8.1
Transportation by air	44	17.0	20.0	21.7	19.2	19.1	21.5	25.5	26.5	25.5	30.2	35.1	35.1	34.8	35.6	39.9
Pipelines, except natural gas	45	6.1	4.5	5.7	5.3	5.9	6.7	6.3	5.4	5.4	4.3	5.2	5.2	4.8	5.0	4.9
Transportation services	46	6.8	7.8	8.3	8.7	9.0	9.3	10.0	11.0	12.0	12.5	13.1	13.1	13.8	14.7	15.0
Communications	47	73.5	80.7	86.2	94.4	98.7	101.0	107.6	116.3	115.8	117.8	127.6	127.6	135.1	135.7	140.4
Telephone and telegraph	48	60.6	67.2	72.6	80.9	85.0	87.0	93.6	101.7	102.5	105.6	113.7	111.2	117.0	116.2	121.2
Radio and television	49	12.9	13.5	13.5	13.5	13.7	13.9	14.0	14.6	13.3	12.2	13.9	16.4	18.1	19.5	19.2
Electric, gas, and sanitary services	50	123.7	123.2	123.1	121.6	121.9	114.9	116.8	124.7	128.6	126.5	139.5	139.5	146.3	152.6	154.8
Wholesale trade	51	**170.1**	**185.8**	**195.8**	**190.5**	**207.5**	**218.2**	**224.2**	**259.5**	**273.0**	**307.1**	**302.6**	**303.1**	**313.4**	**329.4**	**323.1**
Retail trade	52	**318.0**	**338.1**	**334.8**	**320.1**	**330.6**	**336.8**	**365.1**	**397.7**	**421.4**	**453.2**	**440.1**	**441.8**	**467.0**	**483.7**	**478.0**
Finance, insurance, and real estate	53	**596.5**	**631.0**	**667.4**	**692.8**	**704.7**	**708.4**	**727.9**	**762.1**	**776.4**	**776.6**	**809.9**	**809.7**	**847.4**	**869.0**	**868.3**
Banking	54	92.6	96.9	102.3	107.1	111.2	113.0	113.4	114.4	116.2	118.1	118.7	.....	.....	.....	.....
Depository institutions	55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	134.7	134.6	135.5	135.2
Credit agencies other than banks	56	18.0	19.7	20.9	21.4	22.1	22.1	24.4	26.9	28.8	31.7	34.0	.....	.....	.....	.....
Nondepository institutions	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.4	17.4	17.3	18.1
Security and commodity brokers	58	12.8	15.2	15.6	17.5	20.0	17.9	24.4	22.6	26.7	26.5	37.8	37.9	36.4	41.7	39.9
Insurance carriers	59	53.8	57.0	58.6	61.1	56.9	53.4	52.9	58.8	58.7	55.4	51.2	51.2	60.9	66.2	57.6
Insurance agents, brokers, and service	60	21.3	21.5	21.6	22.5	23.6	25.6	25.6	27.1	27.1	27.5	30.1	30.2	31.2	30.8	32.9
Real estate	61	389.0	411.4	438.3	453.0	460.2	464.8	475.2	499.2	504.7	502.0	521.3	521.5	549.4	560.2	566.3
Nonfarm housing services	62	275.4	288.3	301.9	321.7	333.4	339.6	340.3	350.2	358.4	360.5	368.9	368.9	378.4	385.0	390.4
Other real estate	63	113.6	123.0	136.4	131.3	126.8	125.2	135.0	149.0	146.3	141.5	152.4	152.6	170.9	175.2	176.0
Holding and other investment offices	64	9.0	9.4	10.1	10.2	10.7	11.7	11.9	13.2	14.2	15.5	16.9	16.9	17.4	17.4	18.4
Services	65	**538.9**	**573.5**	**592.8**	**609.0**	**624.4**	**629.2**	**649.5**	**687.8**	**722.0**	**751.7**	**784.0**	**782.5**	**813.5**	**846.8**	**872.9**
Hotels and other lodging places	66	33.3	34.8	33.7	31.0	30.9	31.6	34.6	37.0	39.2	40.7	42.6	42.6	43.1	45.3	44.2
Personal services	67	28.4	28.8	28.1	27.6	27.1	26.5	27.4	28.4	31.1	32.0	32.2	31.0	32.8	32.2	30.7
Business services	68	79.5	88.4	97.2	103.9	109.9	113.2	121.6	138.6	151.2	162.6	174.6	141.6	152.3	163.2	172.3
Auto repair, services, and parking	69	28.9	31.2	32.6	31.7	31.4	30.3	31.9	34.8	39.3	39.0	38.2	38.2	39.3	38.2	39.2
Miscellaneous repair services	70	11.0	12.2	12.6	13.5	13.0	12.4	12.8	14.3	12.6	14.0	13.7	13.7	14.9	16.0	16.1
Motion pictures	71	7.6	10.2	9.4	9.0	9.3	10.0	9.9	10.5	11.1	12.0	12.9	13.7	13.0	15.1	14.1
Amusement and recreation services	72	16.5	17.3	18.4	19.5	20.5	21.2	22.6	22.8	24.9	25.8	27.4	28.1	29.1	31.4	34.4
Health services	73	176.0	182.4	187.6	196.1	202.1	206.4	208.2	209.6	213.6	216.1	228.9	228.9	229.9	232.8	237.6
Legal services	74	46.1	49.6	50.6	51.5	51.6	52.3	51.6	54.8	56.5	61.0	61.1	61.1	66.0	66.0	65.9
Educational services	75	24.7	25.5	25.6	26.3	25.9	26.2	26.8	27.8	28.4	28.7	30.4	30.3	31.6	32.3	33.0
Social services and membership organizations	76	33.9	35.8	36.9	37.8	38.1	38.0	39.0	40.3	41.4	43.5	45.7	45.7	50.1	54.4	57.1
Miscellaneous professional services	77	44.0	48.0	52.1	53.9	57.9	54.3	56.5	61.5	65.1	68.3	68.8	.....	.....	.....	.....
Other services	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100.0	103.0	111.4	119.6
Private households	79	9.1	9.3	8.1	7.2	6.7	6.6	6.6	7.5	7.5	7.8	7.7	7.7	8.2	8.7	8.8
Government	80	**475.7**	**488.3**	**498.6**	**508.9**	**511.6**	**507.1**	**512.5**	**516.9**	**527.5**	**536.4**	**545.3**	**545.3**	**555.9**	**567.0**	**581.7**
Federal	81	**171.7**	**176.5**	**175.7**	**178.7**	**179.6**	**176.2**	**179.8**	**180.6**	**182.6**	**182.9**	**185.4**	**185.4**	**188.3**	**189.9**	**193.3**
General government	82	137.0	138.4	137.5	139.2	140.9	142.4	144.8	146.4	148.6	149.0	151.4	151.4	153.5	154.2	156.3
Government enterprises	83	34.7	38.0	38.2	39.4	38.7	33.8	35.0	34.2	34.0	33.9	34.0	34.0	34.8	35.7	37.1
State and local	84	**304.0**	**311.8**	**322.9**	**330.3**	**332.0**	**330.9**	**332.7**	**336.3**	**344.9**	**353.5**	**360.0**	**360.0**	**367.6**	**377.0**	**388.4**
General government	85	278.6	285.8	295.0	301.1	303.0	301.8	302.6	305.4	313.2	320.8	327.3	327.3	333.9	342.7	353.5
Government enterprises	86	25.4	26.0	27.9	29.2	29.1	29.1	30.1	30.9	31.7	32.7	32.7	32.7	33.7	34.3	34.9
Statistical discrepancy [2]	87	**19.4**	**12.2**	**20.6**	**19.0**	**13.6**	**−8.7**	**11.5**	**−9.8**	**−14.7**	**1.3**	**−24.8**	**−24.8**	**−27.4**	**.9**	**4.9**
Residual [3]	88	**20.8**	**33.4**	**39.6**	**45.7**	**45.3**	**15.6**	**20.8**	**21.0**	**7.7**	**−4.4**	**0**	**0**	**2.1**	**−18.6**	**−20.5**

* Estimates for the year 1987 are shown on the basis of both the 1972 and 1987 Standard Industrial Classification (SIC). The estimate based on the 1972 SIC is shown first and is comparable with estimates back to 1977; the estimate based on the 1987 SIC is shown second and is comparable with estimates after 1987.

1. Constant 1987 dollar values are equal to fixed-weighted quantity indexes with 1987 weights divided by 100 and multiplied by the 1987 value of current-dollar GDP.

2. Equals the current-dollar statistical discrepancy deflated by the implicit price deflator for gross domestic business product.

3. Equals GDP in constant dollars measured as the sum of expenditures less the statistical discrepancy in constant dollars and GDP in constant dollars measured as the sum of gross product originating by industry.